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JEWETT'S
FAMILY PHYSICIAN.

THE

IATROLEPTIC PRACTICE OF MEDICINE,

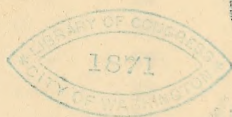
OR THE

9.2.18
CURING OF DISEASES

PRINCIPALLY BY

EXTERNAL APPLICATION AND FRICTION.

10
BY MOSES JEWETT.



Columbus, Ohio:

PUBLISHED BY THE AUTHOR.

1838.

RC 81
557

Entered according to Act of Congress, in the Year 1838,
By MOSES JEWETT,
In the Clerk's Office of the District Court of Ohio.

3 X 4 2 8

COLUMBUS:
SCOTT AND GALLAGHER, PRINTERS.
No. 42, State-Street.

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P R E F A C E.

THE interest which has been excited, and which is steadily progressing among many men and gentlemen of science in the United States, in relation to our *concentrated remedies for the removal of disease*, and the anxious solicitation of our friends for a work devoted to the *Iatroleptic practice of medicine*, have induced us to publish this volume.

The favorable reception which has attended our articles, heretofore published, particularly those upon the subject of cutaneous absorption, has induced us to believe that the same candor will be extended to this work, and that a desire to do good to the afflicted will induce medical gentlemen of science to continue to us that aid and patronage, which it is our pleasure to acknowledge has been so liberally extended.

Although the plan of the work, as well as the mode of overcoming disease, is entirely new, we feel confident it will be acceptable to gentlemen of science and sound learning.

It was our original design to introduce, as an appendix, a synopsis of Anatomy and Physiology, but on reviewing the most valuable works on those branches of science, we were satisfied that justice

could not be done them, without swelling this volume to a size beyond our present purposes. We have therefore contented ourselves, by publishing a number of important articles on those subjects in the Miscellaneous department of the work.

The Pathology, Prognosis and treatment of various forms of disease, are the most important parts of the whole.

Much care has been taken to render these articles interesting, and easy to be understood—and as the modes of treatment have been derived from long and *successful* application in the hands of men of discriminating minds, we are warranted in assuring the public that confidence may be placed in them.

INTRODUCTION.

IN the following work, the Pathology and Prognosis of disease will be treated agreeably to the best received opinions of the most learned physicians of the present age, and we shall state some of the principles by which we are governed in adopting a new mode of treating disease; and which, though received and believed to be correct in theory by some, provided agents could be found to effect the object desired, has by others been doubted for want of facts so established and developed as to sustain the principles referred to.

Our *grand object* will be to *simplify* the *practice* of *medicine*, and *overcome disease* with the *greatest* promptitude and certainty. This, we contend, is accomplished by our discoveries of very many of the agents wisely designed by providence for the removal of various diseases, and their application to the system by the Iatroleptic practice, or the external application of medicine.

Our *theory*, therefore, is respectfully submitted to the learned and to gentlemen of science throughout the world. We do not claim infallibility in that respect, but as to the *facts*—the *effects* wrought by such agents as we have thus far externally employed—we challenge a world to disprove them: we do not submit a negative proposition—we *have proved* them, and by thousands of living witnesses can establish their influence upon the system, as clearly as that jalap and rhubarb operate as cathartics when taken into the stomach.

As it regards our *theory*, we submit the leading facts in favor of *cutaneous absorption*, without which, (or the aid of nervous sympathy, or some yet unknown principle of Galvanic Electric influence,) our whole *theory* would fall to the ground, though the *facts* unexplained would still remain, like the elements, unchangable.

We have been accustomed to see the progress of disease slowly arrested by the means generally adopted, and it is not strange that many should doubt whether an improvement upon any new principle in practice, had taken place, so long as we are constantly annoyed by hundreds of nostrum-venders, who profess to cure every disease by one remedy. But in guarding against this class of *speculators*, the wise and intelligent will not steel their minds against a real improvement, which has been substantiated by the most demonstrable facts, although at the first blush the plan might appear somewhat novel.

It is well known, that all medicine taken into the stomach for the removal of disease in some distant part of the body, produces its beneficial effect by a secondary influence upon the diseased organ. If, for instance, a medicine is offered to the stomach for a pain in the head, sufficient time must elapse, before the object can be accomplished, for the medicine to pass the digestive apparatus, and reach the distant organ through the agency of the blood and nerves. Somewhat similar is the process of curing diarrhea by the employment of cathartics—they stimulate excessively the already irritated and enfeebled intestines, and when the cathartic stimulant is exhausted, agreeably to a well known law of the living economy, the intestines are inclined to repose, their capability of being excited is diminished, a langor ensues, and a cure may be the result. Now our external remedies when applied to the body *are readily* absorbed—they shield the skin against the too rapid evolutions of the electric fluid, which is believed to have a powerful influence in concentrating disease. When the proper remedies are applied to the head in one case, and to the bowels in the other, they are placed in the nearest proximity with the diseased organs, being absorbed, and at once brought into immediate conflict with the malady.

Another advantage not hitherto named, is that in obstinate and violent cases, by taking at the same time, internally, an appropriate medicine, the disorder may be attacked on both surfaces, that is, *externally* and *internally* at the same time.

The superior advantages which this mode presents are too obvious to every one, to be insisted on here. Whatever may be said, however, *theoretically* upon this interesting subject, in the introduction of this work, will be drawn from *experience*

alone, as theory, without substantiating facts, is seldom productive of any useful end or purpose.

If we suppose ourselves divested of all knowledge of remedies suitable for the restoration of health, with disease and death exciting our sympathies, and urging us to the employment of means for the relief of our suffering friends and fellow-beings, we might reasonably expect that, in our attempts to afford relief, we should extend the havoc of death rather than arrest the progress of disease, before a knowledge of the nature and effects of the remedies employed had been obtained. Nothing but *experience* could remove our embarrassment, and give an assurance, in our efforts to relieve the afflicted, that we were not using an instrument of death, instead of a remedy friendly to health and life.

We should be wanting in duty to the public at this time, were we to withhold the numerous facts in our possession, illustrating the applicability of our remedies to most forms of disease, with which our country is afflicted.

If we were to contend, however, that one preparation could be so contrived, as to constitute a sovereign remedy for all diseases, we should have reason to expect an unfavorable reception among the most discerning; but our plan will be acknowledged to be more rational.

We combine, concentrate, and extensively compound, the best therapeutical agents for various forms of disease. This principle has been more rigidly adhered to by us, than by any one who has heretofore prepared medicine. For instance—we have a preparation *which will uniformly cure sick headache*. We have another, which is *equally certain in arresting and curing the rheumatism*. Whenever, as is sometimes the case, the pains of the hip are, by the remedy, transferred to the head, the rheumatic liniment will at once arrest it, but the headache liniment will not; neither will the rheumatic liniment cure the sick headache—showing, in an important light, the principles which we have adopted, in the combination of our remedial agents.

On the subject of cutaneous absorption, we would say that it is intimately connected with the Iatroleptic practice of medicine, or the curing of disease by an external application of remedial agents. As our preparations are becoming more and more extensively known and adopted by medical men in the United

States, and as much of their general usefulness may depend on a more extensive knowledge of the subject, we will here adduce a few of the reasons which have for a long time been adopted by men of sound science, in favor of the doctrine in question.

The function of absorption is one of the most curious and important in the animal economy. The matter of which the living body is composed, is in a state of continual change; old particles are every moment carried out of the system, and new ones are every moment conveyed to the place occupied by the old, and deposited in their room. The constituent matter of the living body is therefore never the same in two successive moments. This change of the constituent matter of the living body is effected by the process termed absorption, and the agents by which this process is carried on, are termed absorbent vessels. The absorbent vessels possess a peculiar structure, essentially different from that of arteries, veins, or any other vessels of the body, and their action likewise is altogether peculiar. The absorbent vessels consist of two distinct sets. The first arise from the alimentary canal, and more especially from the small intestines. They absorb the digested aliment, and are the instruments by which the new particles of matter which are necessary to supply the loss occasioned by the removal of the old, are carried into the system. The new matter, which is termed *chyle*, is of a white color, very much resembling milk; and these vessels, when full of it, have the appearance of minute tubes, distended with a milky fluid, hence they are called *lacteal vessels*, (that is, milk vessels.) The other set arise from every part of the body—from the whole of its external surface—from every one of its tissues—from every one of its organs, so that the point of the finest needle can touch no part of the body, without coming in contact with some part of this system of vessels. At every point of the body these vessels are always at work, taking up new and carrying away the old and worn out particles. But, further, those which are spread out on the external skin, and those which are spread on the internal skin, on the membrane which lines the air passages, for example, and on that which lines the passages of the stomach, are capable of taking up many foreign substances which may come in contact with them, and often powerfully affect the system, by introducing into it these foreign bodies. Whatever may be the nature of

the substance contained in this second set of vessels, and from whatever source it be derived, it is always without color when pellucid; on this account it is termed *lymph*—and these vessels are therefore called lymphatics. The *lacteals*, then, contain new matter derived from the digested aliment. The *lymphatics* contain the old and worn out particles of the system, together with whatever substances may have been taken into it from the surface of the body.

Of the real existence and active operation of the function of absorption, there is indubitable proof. The great number of cases of disease which have recently been successfully treated by external remedial agents, without the exhibition of any medicine internally, might be judged by some, as indubitable evidence of the truth of the doctrine in question. The wasting of the flesh, a dissipation of the solids, a diminution of the weight of the body, under certain circumstances, while the general system remains unaffected, can only be accounted for, on the supposition that processes are continually going on within the body, (not dependent on external influence) which remove from the system both the solid and the fluid parts of which it is composed.

The important fact has been fully proven, that various substances, when placed in contact with a living surface, produce the same effect on the system, as when received into the stomach, or injected into the veins. Arsenic, when applied to an external wound, will sometimes affect the system as rapidly, and as powerfully, as when taken into the stomach. A strong infusion of tobacco, when applied to the pit of the stomach, will occasion vomiting; when injected into the rectum, will produce almost instant fainting, and unless care be taken, the fainting will produce death. These phenomena can be accounted for, only by supposing that the substances in question are readily conveyed into the system. It being established, that such effects can be produced on the human system by poisons, through the medium of absorption, what may not be expected by a concentration and refining of the most powerful therapeutical agents, adapted to the various forms of disease, when conveyed into the system through the same channel? We have proven, by actual experiment, that the remedial agents act as readily on the system in relieving disease, as the poisons do in destroying life. It has

been proven, by direct experiment, that the human hand is capable of imbibing, in a quarter of an hour, an ounce and a half of warm water, which, for the whole body, is at the rate of six or seven pounds in a single hour. Sailors at sea, in perishing need of water, have been relieved by a shower of rain, which wet their under clothes, and afterwards have sustained life, by wetting their clothes in sea water, which invariably gave relief, the absorbents taking up the particles of water, and rejecting the saline qualities dissolved in it.

The functions of absorption explain many phenomena connected with health, with disease, and with the action of remedies. The agents which produce disease, and especially the widely extended and powerful causes of fever, namely, animal and vegetable substances in a state of decomposition; these, together with the effluvia of marshes, exhalations from the animal body itself, and perhaps other noxious gases diffused in the atmosphere, afford striking illustrations of its operation. An exposure for a few minutes, to an atmosphere loaded with marsh effluvia, of an intensely noxious nature, may produce a protracted ague, or even instantaneous death. Even a few inspirations of an atmosphere, rendered foul by the exhalations from the human body, may produce, in a person previously healthy, immediate nausea and vomiting, followed by severe and pernicious fever. A person laboring under small pox, may contaminate the room to such a degree, that a healthy person, breathing this air but a short space of time, may become affected with the disease, although the infected may never have come in contact with the infecting person. In all these cases, a poison is diffused through the atmosphere, which comes into contact with the surface of the body, and so affects the system through the medium of absorption. The free dilution of this poison with pure air, will destroy or render innocuous these malignant agents; hence, persons who are under the necessity of remaining constantly in the chambers of the sick, may remain there with perfect impunity, if these chambers are frequently and thoroughly ventilated; while, if ventilation be neglected or imperfectly performed, not only is the disease of the patient aggravated, and, perhaps, by this course alone rendered mortal, but his nurse is also sure to suffer; hence the value of this further fact, which cannot be too constantly borne in mind, that these

noxious agents always affect the system exactly in proportion to its want of energy. Exposure to a powerfully noxious agent, when the stomach is empty, when the body is exhausted by fatigue, when the mind is depressed and desponding, will occasion a mortal disease. Exposure to this same agent, when the body is nourished, when the functions are carried on with vigor, when the mind is cheerful and confident, will be attended with no appreciable effect. There is no kind or degree of sickness, with which a family or an individual may be affected, in the management of which, the knowledge of facts of this kind may not afford useful suggestions; but of far more importance are they, when a malignant or mortal epidemic is generally prevalent.

Our remedies are far the most valuable antidotes we have known, in cases where disease has originated from noxious vapors and an impure atmosphere. The readiness with which they are carried into the system through the medium of absorption, the instantaneous action they impart to the circulating fluids of the body, thereby expelling the impurities of the blood by the perspirable pores, give relief to the patient, and stimulate and guard the system against future attacks.

Nor is there less practical utility in attending to the action of absorption, in relation to noxious agents which are generated within the body itself. When secretion is vitiated, and the morbid matter is absorbed by the lymphatics—when digestion is imperfect, and unwholesome chyle is absorbed in the lacteals—when the excretory portion of the alimentary canal is torpid, and the fœcal matter which ought to be carried out of the system, is retained there, and in part absorbed; in such cases, the sensible qualities of the perspiration, the odor of the breath, the foul state of the skin, the loss of strength, the irritable and feverish condition of body and mind, sufficiently declare the disorder of the system. Considerations such as these show the value of pure air, simple and easily digested food, moderate and regular exercise, and medicine termed alterative. By alterative remedies, we mean the medicinal substances which are absorbed from the surface of the alimentary canal, and entering the current of circulation, are conveyed by this channel to the secreting organs, and which, by their influence over the actions of these organs, effect a salutary change in the general func-

tions of the body. It will not be denied that all the organs of the body are excited to this performance of their functions by certain external agents, which are called stimulants—such as air, water, heat and so on ; of these the most powerful and indispensable, in a healthy state, is the aliment. Upon the quantity and quality of the aliment depend the quantity and quality of the blood, and upon the quantity and quality of the blood depends, in a great measure, the energy of all the functions of the organs. But when, by disease, the secretory organs have become weakened and languid ; when most of the aliment taken into the system does but little more than add to the accumulated impurities of the circulating fluid, the digestive powers of the stomach are in a measure destroyed. In this situation, our remedies, composed of stimulants, tonics, and diaphoretics, externally applied, have produced the most sudden relief to the oppressed organs ; the general circulation is promoted ; the collected mass of impurities is thrown off by perspiration, and sometimes by the intestinal canal ; the patient is relieved without the occurrence of a tedious state of convalescence. Life can be maintained but a short time under the total privation of food, while the excessive privation of it produces effects on the system which have not been often observed with accuracy, but which are remarkably uniform, and highly curious and instructive. Though we are opposed to abstinence in common cases of disease, yet there are cases wherein it may become necessary, and be obviously capable of becoming a most energetic remedy. When the mass of the fluids and solids of the body are too abundant, abstinence is capable of reducing them to almost any extent that can be required ; and, when a full application of our stimulating liniment is regularly made during such abstinence, it is unattended with any diminution of strength or injury to the health, but it contributes to the advancement of both. As we have made a partial digression from the subject in question, we shall continue this digression by a few hints on perspiration ; and, as absorption is a function of the skin, the insensible perspiration is intimately connected with it, and its abundant promotion is effected by our remedies. A learned physician says: “The large quantity of insensible perspiration from the lungs and skin, together, amounted to thirty-two grains per minute, three ounces and a quarter per hour, or five pounds per day.

Of this, the cutaneous constituted two-thirds, or sixty ounces, in twenty-four hours. After many experiments, the medium average was found to be eighteen grains per minute, of which eleven were from the skin, making, in twenty-four hours, about thirty-three ounces. Admitting this statement to be, in some degree, imperfect, still enough remains to demonstrate that exhalation is a very important function of the skin. It is admitted by all that the cutaneous exhalations of the skin are more abundant than the united excretion of both the bowels and kidneys; and that, according as the weather becomes colder or warmer, the skin and kidneys alternate in the proportion of the work they perform, most passing off by the skin in warm weather, and by the kidneys in cold. The quantity exhaled increases after meals, during sleep in warm dry weather, and by friction, or whatever stimulates the skin, and diminishes when digestion is impaired, and in a moist atmosphere." Here our external remedies become eminently useful; they stimulate the surface, aid the insensible perspiration, and give strength to the cutaneous organs.

The same writer further remarks,—“that every thing tends to show that perspiration is a direct product of a vital process, and not a mere exudation of watery particles through the pores of the skin.” If this be a fact, how important is it to health and life that the functions of the skin should be kept in a healthy state; and how much is gained by an external application of durable stimulants, which, when absorbed, do not vaporize, but remain in the system, shielding it from sudden checks of the insensible perspiration.

“People know the fact, and wonder that it is so, that cold applied to them, or continued exposure in a cold day, often produces a bowel complaint, a severe cold in the chest, or inflammation of some internal organ; but were they taught, as they ought to be, the internal structure and use of their own bodies, they would rather wonder that it did not always produce one of these effects.”

The idea of curing diseases by external applications is not exclusively of modern origin. It prevailed in the earliest periods of medicine, and was highly esteemed by the Arabic practitioners, who “applied to the skin medicine intended to exert its influence upon the bowels as purgatives, on the lungs as expecto-

rants, and on the kidneys as diuretics." In later times, this method has been, by several writers, and particularly treated by Dr. Jackson, in a work rich in observation and experiment, written expressly on the Iatroleptic method of administering medicine by cutaneous absorption. Indeed the Iatroleptic method has ever been in practice, more or less, from the very infancy of medical science down through the long and darkened vista of time to the present moment, and has been adopted by every sect and grade of practitioners. The matter contained in the small pox virus, if confined for a short time on the arm without a puncture, will as effectually produce the disease as if inserted in a puncture. The pure concentrated Prussic acid applied to the tongue of a dog produces instant death; and a portion of it spread on the arm of a man produces the same effect.

Some have carried their opposition to this doctrine so far as to aver that "nothing, whether metallic, mineral, or vegetable, enters the circulation of the human body, unless previously *assimilated*," that is, changed into the same nature of the body, or, more technically, converted into nutriment. Of such an objector, we would ask if he suppose poisons taken into the stomach to undergo this process? If so, how can they be poisonous? Moreover, substances, in order to become assimilated, must pass the digestive apparatus, a process of several hours, while poison acts instantaneously or in a few minutes. It is also generally admitted that the lacteals, through which the assimilated matter passes into the circulation, absorb nothing but what is congenial to health and life, in other words, nothing but the chyle. How, then, can the doctrine be sustained, "*that nothing enters unless previously assimilated.*" The doctrine of venous absorption appears to be well established; and this would be upset if the other were true. We contend that if, through the medium of cutaneous absorption, poison can be administered which will produce disease and death, so likewise, through the same medium, a medicine may be introduced which will restore health and vigor. To the objector against cutaneous absorption, we would propose the following questions:

1. Is the skin possessed of sensibility which makes it susceptible to the action of all stimulants? It must be recollected that, in cases of external remedial applications, the nerves of the skin must be first excited—first impressed; they must catch the pe-

cular power of the remedy, and then transmit the impression to its appropriate organs, or the organ whose functions will be principally affected by its influence.

2. If the skin possess so wide a range of sensibility as to render it susceptible to all kinds of stimulants, why should it not take up the stimulating properties of various remedial articles, when these are applied in a solid form, or in powders?

3. If the doctrine of cutaneous absorption be false, why, or in what manner, does the urine become changed, in color, from the application of various kinds of coloring matter to the skin? Can coloring matter be conveyed through the medium of nervous sympathy?

4. If the doctrine be false, how is the sensation of thirst relieved by the application of water to the external surface of the body? But, admitting these effects are produced through the medium of nervous sympathy, or from any other cause, the reputation of our external remedial agents would remain unimpaired, as they stand on their own merits.

Their sensible qualities are those of a strong and permanent stimulant; they relieve pain by restoring vital action and a free circulation of the blood to the painful parts; they remove disease by acting in accordance with that theory which makes disease to consist of obstructed circulation and diminished vital energy; they have so far sustained their reputation with every honest, intelligent individual who has become fully acquainted with their therapeutical powers.

PART I.

DISEASE AND ITS TREATMENT.

CHAP. I.

OUR REMEDIES:

CONSISTING OF LINIMENTS, SYRUPS, LOTIONS, CERATES, TETTER SALVE, PILE SALVE, VENEREAL OINTMENT, ITCH OINTMENT, TINCTURES, ETC.

THE following are the most important articles of our Concentrated Chemical Compounds, now in extensive use in the United States. A general mode of application, in various forms of disease, is hereunto annexed. We shall treat the subject more elaborately in connection with the Pathology of disease.

STIMULATING LINIMENT.

This was the first article prepared, and has been attended with the most complete success.

It has been constructed on the principle upon which many of our external remedies are based; and though the first, is not the least efficacious, and will bear a comparison with any medicine now in use. It has been found efficacious for any general or local pains in the back, breast or side, pleurisy, cholic, diarrhea; and has also proved successful in curing

cases of bronchocele, hydrocephalus, local inflammation, morbid affections, incurvation of the spine, paralysis, &c. &c.

DIRECTIONS FOR USE.

For Slight Pains—rub the part affected with the Liniment, with much friction, and apply a plaster spread with the same. Plasters made of glazed cloth are preferable, as they exclude the influences of the external atmosphere, and do not waste the Liniment by absorption, nor soil the clothes.

For Severe Pains—in addition to the above, place a warm brick near the part affected, renewing it if necessary. If the pains be very extensive and general, the Liniment should be freely applied to the body and parts affected, and to the soles of the feet; and when in bed, place warm bricks to the feet and sides, and take the Diaphoretic Drops until a free perspiration is produced; which course may be repeated daily or oftener, according to the violence of the pain.

For Weak Joints—rub on the Liniment, with much friction, twice a day.

For Bruised Limbs—if the skin be broken, apply the Vegetable Cerate; if not, and inflammation has taken place, apply the Liniment once a day.

For Ague in the Face—apply a plaster of the Liniment on going to bed, and place a warm brick, or a bag of hot hops or meal to the same. A small portion of the Liniment applied to the jaw, inside of the mouth, will be beneficial.

For Curved Spine—apply the Liniment twice or three times a day over the whole length of the spine, and a plaster of the same; occasionally, or each night, heat may be applied in either of the ways above directed. Once in three days wash off with warm soap suds, wipe dry, and then make a fresh application of the Liniment. The Vegetable Syrup or Alterative Drops may be taken according to directions.

For Lame Back—wear a plaster on the back, and renew once or twice a day; if not relieved, apply heat as above directed, over the region of the pain.

For Cholic and Inflammation of the Bowels—apply the

Liniment very freely, with much friction, to the bowels, and a plaster of the same: if not relieved, apply heat as above, and take the Diaphoretic Drops according to directions.

For Dropsy—if in the feet and legs, soak the feet in weak lye or warm water, rub them upwards while in the same, wipe dry, and apply the Liniment once or twice a day; and if the feet are much swollen, bandage them, commencing at the toes. If the abdominal region be the seat of disease, apply the Liniment freely over that region, and wear a plaster on the same.

For Dyspepsia and Liver Complaint—apply the Liniment with friction to the stomach, wear a plaster of the same over the region of the liver, renewing it once or twice a day. When there are pains in the shoulders or back, apply the Liniments to those parts on plasters. In severe cases, apply the Liniment once or twice a day on the whole surface of the body, and wear plasters on the parts as directed; once in three days wash off with warm soap suds, then with salt and water, wipe dry, and apply the Liniment. In these complaints, if not readily relieved, take the Vegetable Syrup, Alterative Drops, and Essence of Life, according to directions. If any fresh symptoms occur, apply the Liniment to the body as above, and to the soles of the feet, and when in bed, place warm bricks to the sides and soles of the feet; take Diaphoretic Drops until a perspiration ensues, which will remove these symptoms, and if renewed a few times, will accelerate the cure of all the complaints. An application of the Liniment to the stomach, and on plasters worn over the region of the liver, renewed once or twice a day, for a length of time, without any other application, has effectually cured many long standing cases of dyspepsia and liver complaint; when this course does not soon succeed, it will be necessary to persevere a considerable time in order to become permanently relieved. In extreme cases we have found the application of plasters made of glazed cloth, and spread with the Liniment, covering the whole chest, to be of great advantage. In other

cases, where the liver has become extremely torpid, and the Liniment did not appear to have much sensible effect, we have applied a bath to good advantage. Take a gill of alcohol, and add as much salt as will dissolve in it, set it on fire, under a chair, on which let the patient sit, covered with a blanket to his neck: this will cause a copious perspiration, without any diminution of strength; after which wash off, and the system will more readily receive the Liniment. In these affections the bowels generally become constipated. The exhibition of our Vegetable Syrup will generally overcome this difficulty; but should it not be sufficient, a gentle cathartic may be administered.

Note. Where the lungs are in any degree affected, the Consumption Liniment ought to be adopted.

For Bronchocele—apply the Liniment two or three times a day over the neck, without a plaster; wear a piece of silk next to the skin and a flannel over it, and take freely of the Vegetable Syrup, or the Alterative Drops. This course persevered in for two or three months, has uniformly reduced the neck to its proper size. If the Liniment does not appear to cause a sufficient action in the parts affected, apply three or four drops of the Nerve Sanative over the neck, which will aid much in effecting that object.

For Hydrocephalus—shave the head and apply the Liniment over the whole surface, two or three times a day; take our Alterative Drops according to directions. The Liniments may be applied once a day in small portions in the ears, on the neck, &c., and freely to the bottoms of the feet; the Nerve Sanative may also be applied to the top of the head, three or four drops at a time. We have known a sufficient action given to the system to cure this distressing complaint, in some instances, in a very short time; but if immediate relief be not given, the patient ought not to despair, as we never have had a failure reported to us, even in cases which have been pronounced, by the ablest physicians, beyond the reach of medicine.

LINIMENT FOR FEVERS AND FEVER AND AGUE.

This preparation has been particularly adapted to bilious fevers, and fevers generally—combining the best concentrated medical agents for that class of diseases. The results of its use have been of the most satisfactory nature. A suitable application of this Liniment according to directions, with our Diaphoretic Drops to induce a more speedy perspiration, has not failed in any instance yet known, to give a very speedy ease to the patient, reducing the feverish symptoms with great promptness, and in ordinary cases, overcoming the disease in a very short space of time. In cases of great severity, a continuation of the remedy for a few days, has generally produced an entire cure; and in such cases, the patient, instead of being left with a great degree of prostration, and a long and enfeebled state of convalescence in prospect, from the tonic and restorative effects of the Liniment, which braces the system and restores the appetite, produces a speedy and entire recovery of health and strength.

In fever and ague, with one or two applications of the Liniment before the periodical return of the chill, or at the height of the paroxysm, we have never known it to fail of preventing a return, and entirely eradicating the disease.

Under the head of fevers, we shall have occasion to say more on the subject of this remedy, as we have the evidence from a number of the most scientific physicians of our nation, who have, from practical experience, become acquainted with its efficacy, and do not hesitate to pronounce it to be of as much importance to the human family, as any ever discovered.

DIRECTIONS FOR USE.

In slight cases of Fever—the application of the Liniment, with warmth and friction, and the patient kept in bed, to promote perspiration, will produce relief in a short time. In such cases, a convenient mode is to apply the Liniment on retiring to bed, which abates the fever, and enables the patient to enjoy a refreshing sleep.

In severe cases of Fever—let the Liniment be applied over the whole surface of the body, and to the soles of the feet, with friction; apply hot bricks to the feet and sides, and once in twenty minutes, give the patient a half tea spoonful of our Diaphoretic Drops, diluted in hot water sweetened, until a profuse perspiration takes place. If the patient be kept in a profuse perspiration for two hours, and the Liniment fully applied to the stomach, the fever will be arrested without administering an emetic, or the recurrence of a single paroxysm. In some instances, there will remain for some time, on the surface of the body, much heat, after it may be discovered by the pulse, that the febrile symptoms are reduced. In many severe cases of fever, it is recommended to soak the feet, and wash the whole surface of the body with warm water, before the first application of the Liniment. After the fever has entirely subsided, it may be of advantage to wash the body with warm soap suds, then with salt and water—wipe dry, and apply the Stimulating or Fever Liniment once or twice, which will add much to the strength and comfort of the patient.

In cases of Fever and Ague—when it can be done, let the Fever Liniment be applied, accompanied by the Diaphoretic Drops, in the manner above stated, about half an hour previous to the time of the expected chill, until a profuse perspiration is produced; or, if the chill arrives before the application can be made, then, during the paroxysm of chill or succeeding fever, apply the Fever Liniment in the same manner, which will very generally arrest the disease, and prevent a return of chill or fever; and the patient, by applying the Liniment once or twice a day, for a few days, will be entirely restored to health and strength.

The object of the Diaphoretic Drops is to produce, more speedily, a copious perspiration, and to aid in regulating the tone of the stomach; if they should not be at hand, warm herb tea can be substituted, though the drops are more prompt, and have a more extensive and beneficial operation.

Many persons, after undergoing a copious perspiration by

means of the Fever Liniment, upon its subsiding, have apprehensions of taking cold—to prevent which, it is important to make free application of Stimulating or Fever Liniment to the body, as that previously applied, has become absorbed into the system. This course renders the patient less liable to the effects of the atmosphere, and is indispensibly necessary to invigorate by the tonic properties, and overcome the debilitating and febrile symptoms. This course should be repeated once or twice a day for a while, even if no paroxysm of fever should occur after the attack is arrested.

Where these directions have been fully attended to, we have never known an unfavorable result.

Scarlet Fever and Measels—are cured by the use of the remedies used for fever, with a readiness seldom produced by any other applications.

For Small Pox and Chicken Pox—this Liniment may be used as in cases of other fevers, accompanied with Diaphoretic Drops. They determine the disease to the surface of the body, and uniformly prevent the fatal effects of its striking to the vitals.

We have witnessed the most decided advantage by the application of this Liniment to the surface of the body, in cases of internal as well as external inflammation. It produces action which causes the inflammation to subside, and reduces the inflamed parts to a healthy temperature; and the same Liniment, when applied to the extremities, which have become cold, will raise the heat and create a healthy circulation.

Note.—In all cases where there is any difficulty in causing a profuse perspiration readily, by the usual treatment, we wish to impress the importance of applying the alcoholic vapor bath, as laid down in this work. In extreme cases, the object will be more readily effected by first applying the Liniment over the whole surface of the body.

LINIMENT FOR NERVOUS AFFECTIONS.

This article comprises some of the most valuable medicinal agents for quieting, composing, and restoring the nerves to a

healthy action; and its success has been very great in cases of long standing nervous irritation, and in cases of convulsive fits; and will generally succeed in hysteria, epilepsy, and St. Vitus' dance. It has entire reference to diseases depending upon the derangement of the nerves, and competent to afford great and permanent relief. In a complication of disorders, where the nervous system is affected, it is recommended to be used in connection with another Liniment adapted to the case of the patient. In the testimony of cures, parallel cases have been given, of using two Liniments on different parts of the body at the same time with success.

DIRECTIONS FOR USE.

Apply the Liniment to the neck, breast, the whole length of the spine, and the inside of the arms, thighs, and legs, once or twice a day, until relief is obtained. Sometimes the Liniment has been applied to the crown of the head, and spread on plasters, to the bottoms of the feet, to good advantage. Also, take a tea-spoonful of our Vegetable Syrup three times a day. When the Vegetable Syrup cannot be obtained, take our Alterative Drops according to directions.

For Asthma—apply the Liniment to the throat and neck generally, and on plasters, to the breast and between the shoulders; at the same time, take two or three times a day our Pectoral Tincture, and in severe cases sufficient of them to produce slight vomiting—also bathe the feet in warm water, dry them, and apply the Liniment to the soles of the feet, and when in bed, place a warm brick to them. The Nerve Sanative and Essence of Life are used to good advantage in this complaint.

For Mental Derangement—shave the hair from the head, apply the Liniment three times a day over the head, neck, and breast, and the whole length of the spine, and apply our Stimulating Liniment to the breast, bowels, and bottoms of the feet; take the Vegetable Syrup according to directions, or if not to be obtained, take the Pectoral Tincture in small doses of four to six drops, three times a day for one week,

and then increase so as to cause vomiting. Apply the saline bath twice a week, which is made by adding about three quarts of salt to twelve pailsful of water, made as warm as can be borne; in which bathe the patient fifteen minutes, wipe dry, and apply the Liniment. The Liniment should be applied in the ears twice a day, and once a day a small portion in the nostrils. The Nerve Sanative must be applied to the top of the head, and the whole length of the spine, in small portions. The Essence of Life may be taken, mixed with the Vegetable Syrup, three times a day.

This Liniment is used to advantage, when the patient's nervous system has become so deranged, as to be unable to bear more powerful treatment.

Females, affected with nervous and uterine affections, will find this Liniment beneficial.

Sometimes, in chronic complaints, where the nerves are very irritable, we find it advantageous to apply this Liniment generally to the body, until relief is obtained, and then make use of the Stimulating Liniment.

As the *nerves* are the seat of a great number of the most afflicting diseases, it is important that every aid should be put in requisition for their relief. We venture to say that no remedies possess more power than our Nerve Sanative and Essence of Life; but as they are articles which have not long been before the public, we shall notice them fully in the course of this work.

LINIMENT FOR CHOLERA MORBUS

Is offered as a valuable remedy for cholera morbus, cholera infantum, diarrhea, cholic, and all bowel complaints. The speedy effect it has in giving relief, more so, it is believed, than by any remedies internally administered—the ease of its application, particularly in the cases of children, who so often suffer from these complaints, presenting such obstacles to the administration of nauseous remedies—together with the benefit of having a remedy always ready for use—are

advantages of great importance, and highly useful to persons and families when traveling.

DIRECTIONS FOR USE.

In cases of Cholera Morbus—apply the Liniment to the stomach, bowels, and bottoms of the feet, and also apply hot bricks to the sides and feet in severe cases. Use freely of our Diaphoretic Drops, until perspiration takes place. This Liniment alone has cured an immense number of cases of cholera infantum, without any other remedies, and the ease of its application to children renders it extremely useful.

In common Diarrhea—relief can be obtained generally in a few hours, by rubbing the stomach and bowels with the Liniment, and wearing a plaster of the same on the stomach.

In cases of Bilious Cholic, and Spasmodic Affections of the Stomach and Bowels—this Liniment may be applied to good advantage. Where the pains or cramps are severe, apply the Liniment freely to the region of the pain, placing a warm brick to the same, which facilitates the absorption of the Liniment; take freely of the Pectoral Tincture in preference to Diaphoretic Drops, as they will cause speedy relief, by producing immediate and easy vomiting, without cramping the stomach. When relief is obtained by these remedies, the bowels generally become regular without any recourse to physic.

In Dysentery and cases of Hemorrhage—apply the Liniment to the stomach, bowels, and at the termination of the spine; take the Drops as before directed, and apply hot cloths to the bowels, and a hot brick to the feet. In addition to this, let the patient drink freely of warm tea made of smartweed sweetened, with a little milk added.

We speak with confidence of the valuable properties of these remedies. Were it in our power, we would not rest until the hundreds of thousands of mothers in the United States, who yearly mourn the loss of children, should be made fully acquainted with the fact, that relief has uniformly been

obtained by these remedies, where they have been properly exhibited.

LINIMENT FOR COUGHS AND CONSUMPTIONS,

Has proved, for the disease for which it is adopted, a most valuable remedy, as will readily be observed by adverting to the cases reported. It has relieved the most distressing coughs, lingering cases of consumption, and diseases of the lungs. It operates by arresting the decay of the lungs, releasing the corrupted matter, and causing it to be discharged by the mouth or intestinal canal, and proves healing to the lungs. At the same time, highly useful tonics and purifiers of the blood, are introduced into the system, by means of the Liniment, and the use of our Vegetable Syrup, which is intended to be used in connection with it, as a most valuable and important addition. Cases of the most alarming nature, and of many years suffering, have been, by a regular use of these remedies, entirely relieved, and permanently cured, as can be proved by the most undoubted testimony.

In whooping cough, the Liniment and Syrup have produced immediate relief, and effected speedy cures. In common colds or slight coughs, relief can generally be obtained by the use of the Liniment alone.

DIRECTIONS FOR USE.

In cases where the Lungs are inflamed only—and the patient has not for a great length of time been subject to a cough—relief may be granted by applying our Cough Liniment to the side, and between the shoulders, two or three times a day; at the same time taking the Vegetable Syrup, or if that be not at hand, take from four to twelve drops of the Pectoral Tincture, three times a day, and at night apply plasters spread with the Liniment, and a warm brick to the bottom of the feet, and take some warm herb tea to cause free perspiration; at the same time, Tonic Bitters may be taken two or three times a day, to sustain the strength of the patient. In more advanced stages, where the patient shall have

been afflicted with a slight cough a long time, pains in the breast, sides and shoulder-blades, hemiplegia, and emaciation, with evident symptoms of the lungs having become ulcerated, a more elaborate course ought to be pursued—the Liniment should be worn on plasters, applied to the breast, back, and on the bottom of the feet, renewed twice a day. If the system has become very impure, this will cause small pustules to appear on the surface in two or three days, which will discharge virulent pus. The parts should be washed with warm castile soap suds at each dressing; and once in two or three days, the patient should be washed entire in warm soap suds, then in salt and water, make free use of the flesh brush, and apply the Liniment again. The Liniment should also be rubbed over the whole body, particularly the throat and spine. If the pustules become too sore for the Liniment to be borne on them, the Vegetable Create may be applied for a few dressings, and then the Liniment resumed. The Cough Syrup should be taken three times a day, in tea or table-spoonful doses, as the tickling sensation attending the cough may demand. The Pectoral Tincture must also be administered in doses of from three to twelve drops as occasion may require. This article is one of the best expectorants known; and when taken in large doses, excites nausea and vomiting, but we seldom find it necessary to produce this effect. If the patient has chronic wandering pains, an under dress of white silk is valuable to be worn. The diet should be light, exercise moderate, night and damp air avoided, and the feet kept warm. In cases of ulceration, this course will generally cause a discharge of matter in two or three days, sometimes by vomiting, and at other times, by the intestinal canal. If port wine be agreeable to the patient, it may be taken in small quantities. We have known some instances of sudden relief by the course here recommended. In such cases, it will be absolutely necessary for the patient to follow up the remedies, or at least apply the Liniment for a considerable length of time to confirm the cure. But if, through the agency of external remedies, the morbid matter can be expelled from the sys-

tem, the digestive organs restored to a healthy tone, and the whole functions of the body strengthened, there is much gained towards the restoration of health. These effects, it has appeared, we have been enabled to produce, principally, by our remedies externally applied; for by the use of the Liniment on the stomach and bowels, we have frequently known a healthy state of both to take place, though not always without the aid of some medicine taken into the stomach.

To aid in the relief of the cough, we sometimes prepare a syrup in the following manner: take two pounds of turnips, and skin them one third of an inch thick; two pounds of loaf sugar pulverized; place a layer of the turnips in a bake-oven, and so on alternately—then cover it tight, and place it over a slow fire, for three hours—then strain it and bottle it for use. Dose—one table spoonful three times a day. Covering the chest with a jacket of glazed cloth, spread with the Liniment, as recommended in some other cases, has effected a cure in many instances when all other means had failed.

It has been with much diffidence that we have published some of the results of experiments made with our remedies, in cases of consumption. We never have spoken confidently in this matter, until we had treated a large number of cases, which had been given up by all orders of physicians as incurable. These favorable results, together with the testimonials from almost every section of the United States, vouched by physicians, clergymen, and gentlemen of undoubted veracity, have induced us to publish the most successful practice by which patients, laboring under pulmonary complaints, have been relieved.

LINIMENT FOR RHEUMATISM,

For inflammatory rheumatism, sciatic affections, common rheumatism, local pains, and affections of the gout, is recommended with confidence for these excruciating complaints, as a remedy possessing more power to relieve, and to perform a more radical cure, than has been generally accomplished by any other means.

DIRECTIONS FOR USE.

For Inflammatory Rheumatism—apply the Liniment once a day over the whole body, with friction—keep warm, and make free use of our Diaphoretic Drops. When the pain is deeply seated, a plaster spread with the Liniment must be worn over the part, and a bag of hot hops or meal, or a hot brick applied thereto. If relief is not directly obtained by these means, apply the Liniment more frequently.

For the Gout—if in the feet or legs, soak them in weak lye, wipe dry and apply the Liniment freely, wrap in flannel, and when in bed, place warm bricks to them, renewing them as they get cool. Take the Vegetable Syrup and Diaphoretic Drops according to directions. If the joints be swollen, plasters of the same Liniment must be worn over the region of the affected parts, renewed once or twice a day; and if the parts are painful, a bag of warm oats or hops ought to be applied over the plaster. If the case be of long standing, the Vegetable Syrup and Diaphoretic Drops may be given combined together, and as a change, the Diaphoretic Drops may be occasionally omitted, and the Alterative Drops or Nerve Sanative may be adopted. Sometimes we have known these preparations to be continued a number of days without an apparent beneficial effect, and afterwards the patient, by perseverance, has been cured by them.

The Nerve Sanative, taken in small doses of two drops, and applied outwardly on the affected limb, has proven an excellent auxiliary in the gout. After heating up the affected limbs for a number of days, if the heat become severe, we cool the parts by an application of the Vegetable Cerate, for a day or two, which will also allay the pain, but there is nothing equal to the Nerve Sanative in extreme cases. A sweat may be administered by the use of alcohol and salt, as heretofore directed, occasionally to good advantage.

If in the Breast—apply the Liniment to the breast freely; take Vegetable Syrup and Pectoral Tincture.

If in the Head—make similar applications to the head,

neck, and spine, and use the Syrup and Pectoral Tincture. In paroxysms of fever, or in extreme cases, if perspiration is not produced speedily, the patient should be rubbed with the Fever Liniment, apply hot bricks, take Diaphoretic Drops, and plentifully of hot herb tea, until a free, copious perspiration is produced. In either of the above cases, much benefit would be derived by an occasional use of the saline bath, which is made by about three quarts of salt, to twelve pailsful of water, made as warm as can be borne, in which bathe the patient fifteen minutes, wipe dry, and make an application of the Liniment.

N. B. In very severe cases of rheumatism, when the system is generally affected, if relief is not obtained by the means directed, the patient is advised to adopt the same course as is recommended in extreme cases of the gout.

For Numb Palsy—the Liniment may be applied three or four times a day over the affected parts, and once in four days steam those parts in bitter herbs, wash off, wipe dry, and then apply the Liniment, and take *freely* of our Diaphoretic Drops. This course, persevered in, has cured cases of very long standing. An occasional use of the saline bath would be advantageous. If the disease be of long standing, and the system be deranged, the patient will find much advantage, after the first application of the Liniment, in taking an emetic of our Pectoral Tincture, and perhaps it may be necessary to repeat it two or three times.

LINIMENT FOR HEADACHE,

Is competent to relieve, immediately, the most severe cases of headache with a single application, and in a short time to effect an entire cure of long standing sick headache—a disease of the most distressing nature, suffered by numberless persons for years, without more than temporary relief, and often difficult to obtain that result. It is positively known that a fair trial of the Liniment *will* effect a radical cure.

DIRECTIONS FOR USE.

Apply the Liniment freely, with much friction, over the forehead, crown of the head, back of the neck, spine, and the breast.

For Sick Headache—in ordinary cases, apply as above, wrap a silk handkerchief round the head, and apply plasters, with a hot brick, to the feet. In more severe cases of long standing, make the above application daily, and wear a small plaster on the back of the neck, and sometimes a small quantity of the Liniment, inserted in each nostril and the ears, which, though for a few minutes, will be pungent, will give immediate relief. If the stomach be foul, take ten or twenty drops of our Pectoral Tincture, or a sufficient quantity to cause a gentle vomiting, which will be effected with these drops, without the least danger of cramping the stomach, and relief will be immediately gained.

We have seldom witnessed cases so severe as to render all these applications necessary. We have the evidence in a number of instances, where immediate and permanent relief has been given in cases of chronic sick headache, by the application of the Liniment alone.

LAXATIVE LINIMENT.

This Liniment is competent to effect a passage of the bowels, which have for a long time been constipated, and where the patient is much emaciated, and a cathartic is indicated, this method of procuring a passage is peculiarly advantageous, as the object is effected without weakening the patient.

DIRECTIONS FOR USE.

Apply the Liniment to the stomach and abdominal region freely, and also on the small of the back and bottom of the feet, and place warm cloths to the bowels, and hot bricks to the feet. Sometimes a passage is effected by these means in a few minutes, without the recurrence of pain.

VEGETABLE CERATE,

For burns, ulcers, wounds, salt rheum, scald head, chapped hand, and almost every eruption that appears on the skin.

DIRECTIONS FOR USE.

For Burns, Cuts, and Ulcerations—it should be used by spreading on very thin leather. These plasters should not be removed under thirty-six or forty-eight hours.

In Scald Head—the hair should be closely shaved, and every day the sore surface thoroughly cleansed with hard soap and warm water. The Cerate should be applied over the affected part three times a day, liberally, covered with thin muslin or netting, to prevent the annoyance of flies; any other covering appears to keep the sores too warm. Continue this course ten or twelve days; then have recourse to our Tetter Salve, and continue the use of it in the same way, until a cure is accomplished.

When the general health appears to be affected, or the cure progresses slowly, rubbing the whole body every second or third night with our Stimulating Liniment, being first cleansed in soap and water, will greatly expedite a cure.

To cleanse the system, the patient may take our Alterative Drops, as directed.

Many astonishing effects have been produced, in cases of broken bones, with the Cerate. In small fractures, let the limb be bound up, covered with the Cerate, after the bones have been adjusted, and remain two or three days without dressing, which will much accelerate a cure.

PILE SALVE.

A variety of cases of piles, even of the most obstinate character, of many years' standing, have been effectually cured by this application.

DIRECTIONS FOR USE.

Rub the Salve freely about and up the anus daily, and in

extreme cases, several times in twenty-four hours, inserting as far up as can be reached; at the same time, take two or three times a day of Stoughton's Bitters, or any other suitable tonic. In severe cases, our Stimulating Liniment may be used by rubbing it on the bowels and back, and spread on plasters worn on the same places, which will have a tendency to regulate the stomach and the bowels, by which the cure will be accelerated.

The Pile Salve, alone, is competent to effect a cure in most cases.

TETTER SALVE.

This Salve is particularly designed for the cure of tetter and ringworms, and to succeed the use of our Vegetable Cerate, in the cure of scald head.

DIRECTIONS FOR USE.

For Tetter, Ringworms, &c.—apply the Salve, by rubbing the parts affected once a day, or oftener, cleansing with soap and water daily.

For Chapped Hands—a little rubbed upon the same for two or three nights successively, will seldom fail of curing. A single application will, in slight cases, entirely relieve, and the parts assume a healthy appearance by the return of the ensuing morning.

VENEREAL OINTMENT.

DIRECTIONS FOR USE.

Apply the Venereal Ointment two or three times a day on the affected parts; at the same time rub the whole surface of the body with our Stimulating Liniment, with the exception of the parts above named. Drink freely of a tea made one-fourth of sassafras, and three-fourths of sarsaparilla, or if that cannot be obtained, substitute burdock root. Keep the bowels open with a gentle physic, and occasionally take a few drops of balsam copaiva, dropped on sugar.

Note.—Though many confirmed cases of venereal have been relieved by the above prescription, we intended them more particularly for common cases of gonorrhea, in which, generally, the patient may procure the medicine and cure himself. But in advanced stages of the disease, and particularly syphilis, the following directions will be found important. If the patient be afflicted with ulcers, let them be washed with castile soap suds daily, and then apply the Brown Wash; after which, apply the Venereal Ointment, until the venereal virus is entirely eradicated, when the sores may be cured by applying plasters spread with Cerate, and renewed daily. At the same time of these applications, let the patient take half a wine glass of the Vegetable Syrup four times a day, and drink freely of sarsaparilla tea. The Syrup is far preferable to any preparation heretofore known, in cleansing the blood from the venereal taint; and although an immediate effect will not be discoverable, yet when persevered in, it will restore the system to health. It may be necessary to use the Syrup five or six weeks in very obstinate cases.

The above contains the most sure, prompt, and efficacious course of treatment for this disease. Some of the most loathsome cases have been cured by it.

The course we recommend can be understood and adopted by the patient himself, without exposing his situation to the physician. Thousands of young men have suffered this disease to run on until their constitutions were destroyed, from fear of making their situation known. If the patient shall entirely abstain from ardent spirits, and persevere in the above course, however bad his case may be, we do not hesitate to warrant a cure.

When chancres appear, which will be known by the little eruptions, scabs, and ulcers, arising on different parts of the head of the penis, accompanied, at first, by itching, and gradually changing into pain, we would recommend the use of the Brown Wash, and the Venereal Ointment applied to the affected parts, taking a table-spoonful of the Vegetable Syrup, four times a day, and keeping the bowels gently open.

When the disease has run on for a length of time, so as that the absorbents have taken up the venereal poison, the glandular system will be affected—usually the inguinal glands, or the groin. These glands will become swelled and inflamed. Pain in the groin, and some degree of hardness. These are indications of bubo, and can be checked and much relieved by wearing a plaster of Stimulating Liniment over the region of the pain, renewed two or three times a day. Should a rupture or a scirrous affection be mistaken for a bubo, still the above course will give relief.

In all cases of swelled testicles, or extreme glandular swelling in the region of the groin, a poultice made of boiled white beans, beat fine, with an equal portion of slippery elm bark, is an excellent remedy.

In some extreme cases of syphilis, we have prepared a Liniment to be applied over the whole of the body, which is composed of concentrated agents, calculated to aid in cleansing the system from the disease. Sometimes it has been advantageously applied on the sound surface of the body, when the ulcers have been treated with Venereal Ointment, poultices, etc. It has been fully demonstrated that this disease is not entirely confined to the dissolute. Instances are known where the venereal taint has been inherited from ancestors: others, where it has been caused by fortuitous circumstances. In fact, we hazard nothing in saying it may be communicated by inoculation, in the same manner as the small pox, and perhaps by inoculating for the small pox, with matter taken from the pustule of a man who is infected with venereal.

ITCH OINTMENT.

The variety of preparations which have been invented for this loathsome disease, and to be sold in almost every drug shop in the country, would seem to be sufficient; and especially so, as many of those compounds have a deservedly high reputation. Nothing could have induced us to have brought this preparation before the public, but the fact of having effectually cured a number of obstinate cases of six or seven

years' standing, where every other prescription had entirely failed. We have learned the fact, that this preparation has been efficacious in a number of eruptive cases, which had been unyielding to the usual forms of treatment.

DIRECTIONS FOR USE.

Rub the Liniment upon all the parts affected, particularly round the wrists, under the arms, upon the elbows, inside and out, under the hams, and round the ankles. All the eruptions of the body, caused by the disease, should be rubbed with the Ointment.

HEALTH RESTORATIVE, OR VEGETABLE SYRUP.

We do not hesitate to aver, that this Syrup, so far as we are acquainted with its effects upon the human system, especially when accompanied with the application of our Stimulating Liniment, far exceeds any other preparation that we have any knowledge of. If there be any chance for the recovery of patients in chronic complaints, or if the disease be within the control of medicine, with proper agents accompanying it, this Syrup will prove effectual. It may, in some cases, be necessary to give it for a length of time, before its salutary effect will become manifest; though in all cases we have witnessed, there remained no doubt on the mind of its superior efficacy, after one or two days' use.

The astonishing effect which is produced on canker in the throat and mouth, and in cases of women who nurse their children, which are sometimes incurable by any remedies heretofore discovered, (unless the child be weaned,) is alone sufficient to recommend its adoption.

In cases of bleeding at the lungs, consumption, liver complaint, nervous affections, asthma, cutaneous eruptions, white swellings, scrofula, syphilis, diseases occasioned by the use of mercury, general debility, and most of the chronic complaints of females, we hesitate not to recommend this Syrup as invaluable.

In what manner it acts upon the system is of but little con-

sequence to know, if we are enabled to testify of its good effects. It is pretty evident that it must change the secretions, expel the morbid matter by the skin, kidneys, bowels, or intestines, although it has but very little *sensible* effect upon any of those organs. The composition of this article is essentially botanical, and highly concentrated. Some of its ingredients have heretofore been used as a medicine *only* by the red men of the West.

DIRECTIONS FOR USE.

In ordinary cases—a dose for an adult is a table-spoonful, and for a child a tea-spoonful, three times a day.

DIAPHORETIC DROPS,

For promoting perspiration in cases where that end is desired, which they will be found to produce in a short time.

DIRECTIONS FOR USE.

In cases of Fever, Fever and Ague, Scarlet Fever, Bilious Cholic, Cholera Morbus, Rheumatism, Numb Palsy, Liver Complaint, and in all cases where the system has become morbid—(in which they operate as a powerful expectorant and diaphoretic, and should never be omitted in conjunction with our Liniment for Fevers)—to be taken in half tea-spoonful doses, for adults; for children, half that quantity, diluted in hot water, well sweetened, once in twenty minutes, until a free perspiration takes place. When the stomach is very foul, they will sometimes cause vomiting.

In cases of Colds—the Drops are used to advantage, when our other remedies are not at hand.

The Drops may be taken as above, and applied externally about the neck and stomach; soak the feet in warm water, wipe dry, and when in bed place a warm brick to the same, and take freely of pennyroyal, or any sweating herb tea, which will, in many cases, arrest a cold without any other medicine.

PECTORAL TINCTURE,

A valuable expectorant, and highly useful, with other remedies, in removing diseases of the lungs. This Tincture is one of the most ready, safe, and efficacious emetics in the whole Materia Medica, and may be resorted to with great advantage where this remedy is indicated. It warms up and stimulates the stomach, and causes vomiting without the least danger of cramps during the operation.

DIRECTIONS FOR USE.

In Coughs and Colds—this preparation is administered in doses of from three to ten drops, three or four times a day, for adults, and for children in proportion.

In cases of Bilious Affections—twenty drops taken, will generally produce gentle vomiting and cleanse the stomach. In all cases where it is important to promote expectoration, a resort to this remedy will produce the desired effect. The dose of twenty drops is competent to produce vomiting when the stomach is very foul, but in urgent cases when it becomes necessary to cause immediate vomiting, we sometimes give the Tincture in tea-spoonful doses, once in five minutes, diluted in warm water, until the effect be produced.

FEMALE DROPS.

These Drops are intended to correct profuse, or restore obstructed, periodical discharges, peculiar to females, (a due regulation of which, is so essential to their health,) and are of the greatest importance in all uterine affections.

DIRECTIONS FOR USE.

Take half a tea-spoonful, three times a day, for a month; then increase the quantity to a tea-spoonful each dose, and continue until the system is fully restored to regularity.

These Drops, in connection with our Stimulating Liniment, and our Health Restorative or Vegetable Syrup, taken accord-

ing to the directions accompanying each, is competent to restore the most deranged state of the system—which has been accomplished in a great number of cases.

When the patient is very Nervous—it is advisable to use our Liniment for Nervous affections, instead of Stimulating Liniment—but otherwise, the latter is preferable.

In cases of Fluor Albus and Prolapsus Uteri—and in fact all uterine affections, these Drops have been administered to good advantage—we have the evidence of cases being relieved in a few days by these Drops, and our other remedies.

ALTERATIVE DROPS.

The object intended to be effected by these Drops is, to restore the circulating fluids to a pure state. They are taken in small doses—and it is said, by some who have used them, that the scrofula has been cured by these drops alone.

DIRECTIONS FOR USE.

These Drops are taken internally, in half tea-spoonful doses, two or three times a day—children from four to six drops—and continued for a considerable length of time.

In many chronic complaints, such as liver complaint, scrofula, white swellings, inflammatory rheumatism, gout, and in cases of eruptions on the surface of the body, they act powerfully in cleansing the blood and circulating fluids; and though their beneficial effects are not so suddenly manifested as are many of our preparations, they are no less certain of producing the most salutary effects, when taken in conjunction with the use of our external remedies.

ESSENCE OF LIFE.

This remedy was prepared several years ago, but we were determined not to offer it for sale, until its virtues were fully tested. The large number of chronic complaints which have recently come under our treatment, have fully established its character, and we now cheerfully recommend it in cases of

dyspepsia, nervous affections, faintness and distress at the stomach, asthma, palpitation of the heart, bilious and wind cholic, etc.

Its powers to relieve in the above cases are very ready; and though we do not recommend it to cure these complaints without the aid of other medicine, we can with confidence say, that it is a most grateful and ready palliative, affording almost instantaneous relief, in many cases, from extreme suffering.

DIRECTIONS FOR USE.

In ordinary cases—it is taken in doses of from six to ten drops, in warm water, or on sugar, once in ten minutes, until relief be afforded.

In cases of Bilious and Wind Cholic, or extreme pains in the chest—take a tea-spoonful once in fifteen minutes, diluted in water.

Keep the vial well corked.

NERVE SANATIVE.

A powerful remedy for tic douloureux, fits of every kind, nervous affections, and delirium.

The agents composing this invaluable preparation, have been concentrated to a far greater extent than any of our remedies heretofore prepared; and it is only to be taken in very small doses.

DIRECTIONS FOR USE.

For Nervous Affections—one drop, diluted in warm water, may be taken three or four times a day.

For Tic Douloureux—apply externally, to the parts affected, three or four drops, and then apply our Nerve Liment freely. Take also half a tea-spoonful of the Essence of Life.

For Spasmodic Fits—take two drops, diluted in water, once in twenty-five or thirty minutes, which will at once reduce the spasms; after which, take one drop, two or three

times a day, as a preventive. In extreme cases, if this dose be not sufficient to immediately arrest the fits, the dose may be doubled, or even thrice the quantity given, and repeated until relief be gained.

In extreme cases of Pleurisy—from two to six drops may be taken once in twenty minutes, and a few drops may be applied to the side, with the Nerve Liniment. In all cases we recommend a full application of our Nerve Liniment. These Drops, accompanied with the Nerve Liniment, have frequently arrested fits in a very few minutes.

In cases of long standing Delirium—a full application of the Nerve Liniment over the whole body, including the head, (after shaving off the hair,) two or three times a day, is absolutely necessary. Take the Essence of Life, in half tea-spoonful doses, three or four times a day; at the same time take two drops of the Nerve Sanative two or three times a day.

Some might be led to suppose that the Sanative contained deleterious drugs, from the small doses recommended. To relieve all such, we pledge ourselves that this is not the case.

BROWN WASH.

This preparation is efficacious in cases of gonorrhea and syphilis, and was intended expressly for those diseases, but may be used to good advantage in indurated ulcers, etc.

The Wash is also exhibited internally, in doses of a tea-spoonful two or three times a day.

LOTION FOR DYSPEPSIA.

This remedy has been advantageously applied to the head and glandular parts of the face and neck, in cases of long standing dyspepsia, and especially where the complaint has caused a depression of spirits in the patient.

It is applied over the head generally, and may be used to advantage in conjunction with the Nerve Sanative, in many nervous affections.

CANCER PREPARATIONS.

Our preparations for cancers are composed of a Liniment, Syrup, Plaster, Poultices, etc., and are calculated to remove pain in the region of the cancer in a very short time, but as it is the business of thousands to *pretend* to cure cancers, we have avoided giving publicity to our preparations, as without the most scrupulous attention to the prescriptions, there is but little chance for a cure; and we are well aware of the difficulty which almost always attends these cases of inducing the patient to persevere in a course long enough to effect a fair trial.

The foregoing general directions will enable the practitioner to apply and exhibit our remedies with safety and benefit to the patient, and though some variations may be necessary to most cases as they occur, the fact that there is no one of these preparations which contains any medicine that is poisonous or deleterious to the human system, and that there can be no danger arising from applying as much of our external preparations as the absorbing pores will receive, renders them perfectly safe, even if they are administered by unskilful hands.

CHAP. II.

FEVER.

FEVER; a disease characterized by an increase of heat, an accelerated pulse, a foul tongue, and an impaired state of several functions of the body. The varieties are numerous.—The principle divisions are into continued and intermittent fevers. Continued fevers have no intermission, but exacerbation comes on usually twice in one day.

The genera of continued fever are, 1st, *Synocha*, or inflammatory fever, known by increased heat; pulse frequently strong and hard; urine highly colored; senses not much impaired: 2d, *Typhus*, or putrid-tending fever, which is contagious, and is characterized by moderate heat; quick, weak and small pulse; senses much impaired, and great prostration of strength: 3d, *Synochus*, or mixed fever. Intermittent fevers are known by cold, hot and sweating stages in succession, attending each paroxysm, and followed by an intermission or remission. There are three genera of intermitting fevers, and several varieties: 1st, *Quotidiana*; a quotidian ague. The paroxysms return in the morning, at an interval of about twenty-four hours. 2d, *Tertiana*; a tertian ague. The paroxysms commonly come on at mid-day, at an interval of about forty-eight hours. 3d, *Quartana*; a quartan ague. The paroxysms come on in the afternoon, with an interval of about seventy-two hours. The tertian ague is most apt to prevail in the spring, and the quartan in autumn. When these fevers arise in the spring, they are called vernal; and when in the autumn, they are known by the name of autumnal. Intermittents often prove obstinate and are of long duration in warm climates; and they not unfrequently resist every mode of cure, so as to become very distressing to

the patient, and, by the extreme debility which they thereby induce, after giving rise to other chronic complaints. It seems to be pretty generally acknowledged, that marsh miasmata, or the effluvia arising from stagnated water, or marsh ground, when acted upon by heat, are the most frequent exciting causes of this fever. A watery, poor diet, great fatigue, long watching, grief, much anxiety, exposure to cold, lying in damp rooms or beds, wearing damp linen, the suppression of some long accustomed evacuation, or the recession of eruptions, have also been ranked among the exciting causes of intermittents: but it is more reasonable to suppose that these circumstances act only by inducing that state of the body which predisposes to these complaints. One peculiarity of this fever is its great susceptibility of renewal from very slight causes, as from the prevalence of an easterly wind, even without the repetition of the original exciting cause. In this circumstance, intermittents differ from most other fevers, as it is well known that, after a continued fever has once occurred, and been removed, the person so affected is by no means so liable to a fresh attack of the disorder, as one in whom it had never taken place. We have not yet attained a certain knowledge of the proximate cause of an intermittent fever, but a deranged state of the stomach, and *primæ viæ* is that which is most generally alledged.

Each paroxysm of an intermittent fever is divided into three different stages, which are called the *cold*, the *hot*, and the *sweating stages*, or *fits*. The cold stage commences with languor, a sense of debility and sluggishness in motion, frequent yawning and stretching, and an aversion to food. The face and extremities become pale, the features shrunk, the bulk of every external part is diminished, and the skin over the whole body appears constricted, as if cold had been applied to it. At length the patient feels very cold, and universal rigors come on, with pains in the head, back, loins and joints, nausea and vomiting of bilious matter; the respiration is small, frequent and anxious; the urine is almost colorless; sensibility is greatly impaired; the thoughts are somewhat

confused; and the pulse is small, frequent, and often irregular. In a few instances, drowsiness and stupor have prevailed in so high a degree as to resemble coma or apoplexy; but this is by no means usual. The symptoms abating after a short time, the second stage commences with an increase of heat over the whole body, redness of the face, dryness of the skin, thirst, pain in the head, throbbing in the temples, anxiety and restlessness; the respiration is fuller and more free, but still frequent; the tongue is furred, and the pulse has become regular, hard and full. If the attack has been very severe, then perhaps delirium will arise. When these symptoms have continued for some time, a moisture breaks out on the forehead, and by degrees becomes a sweat, and this at length extends over the whole body. As this sweat continues to flow, the heat of the body abates, the thirst ceases, and most of the functions are restored to their ordinary state. This constitutes the third stage.

When intermittents continue for any length of time, they are apt to induce other complaints, such as a loss of appetite, flatulency, scirrhus of the liver, dropsical swellings, and general debility, which now and then prove fatal in the end, particularly in warm climates; and, in some cases, they degenerate into continued fevers. Relapses are very common to this fever, at the distance of five or six months, or even a year.

Autumnal intermittents are more difficult to remove than vernal ones, and quartans more so than the other types. It is always desirable to suspend a paroxysm if possible, not only to prevent mischief, but also that there may be more time for the use of the most effectual remedies. When, therefore, a fit is commencing, or shortly expected, we may try to obviate it by some of those means which excite movements of an opposite description in the system: determining the blood powerfully to the surface of the body, by various stimulating remedies, will often succeed. Should the paroxysm have already come on, and the cold stage be very severe, the warm bath, and cordial diaphoretics, in repeated moderate doses,

may assist in bringing warmth to the surface. In the intermission, in conjunction with a generous diet, moderate exercise, and other means calculated to improve the vigor of the system, tonics are the remedies especially relied upon.

Febris synocha; inflammatory fever—a species of continued fever, characterized by increased heat; pulse frequent, strong, hard; urine highly colored; senses not impaired. This fever is so named from its being attended with symptoms denoting general inflammation in the system, by which we shall always be able readily to distinguish it from the nervous or putrid. It makes its attack at all seasons of the year, but is most prevalent in the spring; and it seizes persons of all ages and habits, but more particularly those in the vigor of life, with strong elastic fibres, and of a plethoric constitution. It is a species of fever almost peculiar to cold and temperate climates, being rarely, if ever, met with in very warm ones, except among foreigners lately arrived, and even then, the inflammatory stage is of very short duration, as it very soon assumes either the nervous or putrid type. The exciting causes are sudden transitions from heat to cold, swallowing cold liquors when the body is much heated by exercise, a too free use of vinous and spirituous liquors, great intemperance, violent passions of the mind, the sudden suppression of habitual evacuations, and the sudden repulsion of eruptions. It may be doubted if this fever ever originated from personal infection; but it is possible for it to appear as an epidemic among such as are of a robust habit, from a peculiar state of the atmosphere. It comes on with a sense of lassitude and inactivity, succeeded by vertigo, rigors and pains over the whole body, but more particularly in the head and back; which symptoms are shortly followed by redness of the face and eyes, great restlessness, intense heat, and unquenchable thirst, oppression of the breathing, and nausea. The skin is dry and parched; the tongue is of a scarlet color at the sides, and furred with white in the center; the urine is red and scanty; the stomach is costive; and there is a quickness, with a fullness and hardness in the pulse, not much affected by any pressure made on

the artery. If the febrile symptoms run very high, and proper means are not used at an early period, stupor and delirium come on, the imagination becomes much disturbed and hurried, and the patient raves violently. The disease usually goes through its course in about fourteen days, and terminates in a crisis, either by diaphoresis, diarrhea, hemorrhage from the nose, or the deposit of a copious sediment in the urine; which crisis is usually preceded by some variation in the pulse. As the disease advances, we must attempt to promote the other discharges, particularly that by the skin. Impressions on the senses, particularly the sight and hearing, bodily and mental exertion, etc. must be guarded against as much as possible. When the head is much affected, besides the general treatment, have the head shaved, and perhaps stimulate the lower extremities. In like manner, any other organ, being particularly pressed upon, may require additional means to be used for its relief, which will be different in different cases.

Typhus; a species of continued fever—characterized by great debility, a tendency in the fluids to putrefaction, and the ordinary symptoms of fever. It is to be readily distinguished from the inflammatory, by the smallness of the pulse, and the sudden and great debility which ensues on its first attack, and in its more advanced stage, by the petechia, or purple spots, which come out on various parts of the body, and the fetid stools which are discharged; and it may be distinguished from the nervous fever, by the great violence of all its symptoms, on its first coming on.

The most general cause that gives rise to this disease, is contagion, applied either immediately from the body of a person laboring under it, or conveyed in clothes, merchandise, etc.; but it may be occasioned by the effluvia arising from either animal or vegetable substances, in a decayed or putrid state; and hence it is, that, in low and marshy countries, it is apt to be prevalent, when intense and sultry heat quickly succeeds any great inundation. A want of proper cleanliness, and confined air, are likewise causes of this fever; hence it

prevails in hospitals, jails, camps, and on board of ships, especially when such places are much crowded, and the strictest attention is not paid to a free ventilation and due cleanliness. A close state of the atmosphere, with damp weather, is likewise apt to give rise to putrid fever.

Those of lax fibres, and who have been weakened by any previous debilitating cause, such as poor diet, long fasting, hard labor, continued want of sleep, etc., are most liable to it. On the first coming on of the disease, the person is seized with languor, dejection of spirits, amazing depression, and loss of muscular strength, universal weariness and soreness, pain in the head, back and extremities, and rigors; the eye appears full, heavy, yellowish, and often a little inflamed; the temporal arteries throb violently; the tongue is dry and parched; respiration is commonly laborious, and interrupted with deep sighing; the breath is hot and offensive, the urine is crude and pale, the body is costive, and the pulse is unusually quick, small and hard, and now and then fluttering and unequal. Sometimes a great heat, load, and pain are felt at the pit of the stomach, and a vomiting of bilious matter ensues. As the disease advances, the pulse increases in frequency, (beating often from one hundred to one hundred and thirty in a minute.) There is a vast debility, a great heat and dryness in the skin, oppression at the breast, with anxiety, sighing, and moaning; the thirst is greatly increased; the tongue, mouth, lips, and teeth are covered with a brown or black tenacious fur; the speech is inarticulate and scarcely intelligible; the patient mutters much, and delirium ensues. The fever continuing to increase in violence still more, symptoms of putrefaction show themselves; the breath becomes highly offensive; the urine deposits a black and fetid sediment; the stools are dark, offensive, and pass off insensibly; hemorrhages issue from the gums, nostrils, mouth, and other parts of the body; livid spots, or petechia, appear on its surface; the pulse intermits and sinks; the extremities grow cold; hiccoughs ensue, and death at last closes the scene.

When this fever does not terminate fatally, it generally,

in cold climates, begins to diminish about the commencement of the third week, and goes off gradually toward the end of the fourth, without any very evident crisis; but in warm climates, it seldom continues above a week or ten days, if so long.

Our opinion as to the event, is to be formed by the degree of violence in the symptoms, particularly after petechia appear, although, in some instances, recoveries have been effected under the most unpromising appearances. An abatement of febrile heat and thirst, a gentle moisture diffused equally over the whole surface of the body, loose stools, turbid urine, rising of the pulse, and the absence of delirium and stupor, may be regarded in a favorable light. On the contrary, petechia, with dark, offensive, involuntary discharges by urine and stool, fetid sweats, hemorrhages, and hiccoughs, denote the almost certain dissolution of the patient. The appearances usually perceived on dissection, are inflammations of the brain and viscera, but more particularly of the stomach and intestines, which are now and then found in a gangrenous state. In the muscular fibres there seems likewise a strong tendency to gangrene.

In the very early periods of typhus fever, it is often possible, by active treatment, to cut short the disease at once; as the disease proceeds, we must keep up the functions, and attempt to restore that of the skin, and the other secretions, as the best means of moderating the violence of vascular action. It may be sometimes advisable to employ the tepid bath, to promote the operation of the diaphoretic medicines. If, under the use of the measures already detailed, calculated to lessen the violence of the vascular action, the vital powers should appear materially falling off, recourse must then be had to a more nutritious diet, with a moderate quantity of wine, and cordial or tonic medicines. There is generally an aversion to animal food, whence the mucilaginous vegetable substances, as arrow-root, etc., rendered palatable by spice, or a little wine, or sometimes mixed with a little milk, may be directed as nourishing and easy of digestion. If, however, there be

no marked septic tendency, and the patient is cloyed with these articles, the lighter animal preparations, as calves' foot jelly, veal broth, etc., may be allowed.

The extent to which wine may be carried, must depend on the urgency of the case, and the previous habits of the individual; but it will commonly not be necessary to exceed half a pint, or a pint at most, in the twenty-four hours; and it should be given in divided portions, properly diluted, made perhaps, into negus, whey, etc., according to the liking of the patient. The preference should always be given to that which is of the soundest quality, if agreeable; but where wine cannot be afforded, good malt liquor, or mustard whey, may be substituted. Some stimulant medicines, as aromatics, serpentaria, etc., may often be used with advantage, to assist in keeping up the circulation; also those of a tonic quality, as columba, cusparia, etc., occasionally in their lighter forms, but more especially the acid. These are, in several respects, useful, by promoting the secretions of the *primæ viæ*, etc.—they quench the thirst, remove irritation, and manifestly cool the body; and in the worst forms of typhus, where the putrescent tendency appears, they are particularly valuable, from their antiseptic power; they are also decidedly tonic, and, indeed, those from the mineral kingdom powerfully so. These may be given freely as medicine; the carbonic acid, also, in the form of brisk fermenting liquors; and the native vegetable acids, as they exist in ripe fruits, being generally very grateful, may constitute a principal part of the diet. In the mean time, to obviate the septic tendency, great attention should be paid to cleanliness and ventilation, and keeping the bowels regular by mild aperients or clysters, of an emollient or antiseptic nature; and where aphtha appear, acidulated gargles should be directed. If the disease inclines more to the nervous form, with much mental anxiety, tremors, and other irregular affections of the muscles, or organs of sense, the antispasmodic medicines may be employed with more advantage, to call a greater portion of nervous energy to the lower extremities by the pediluvium, or other mode of applying warmth, or occa-

sionally by friction and stimulating remedies. But if there should be much increased vascular action in the brain, more active means will be required, and it will be always right to have the head shaved. In like manner, other important parts may occasionally require local means of relief. Urgent vomiting may, perhaps, be checked by the effervescing mixture; a troublesome diarrhea, by sudorifics, and warm applications to the bowels; profuse perspiration, by the infusion of a diaphoretic regimen.

Nervous Fever; a variety of the *typhus mitior* of Cullen, but by many considered as a distinct disease. It mostly begins with loss of appetite, increased heat and vertigo; to which succeeds nausea, vomiting, great languor, and pain in the head, which is variously described by some, like cold water pouring over the top—by others, as a sense of weight. The pulse, before little increased, now becomes quick, febrile, and tremulous; the tongue is covered with a white crust, and there is great anxiety about the praecordia. Towards the seventh or eighth day, the vertigo is increased, and tinnitus aurium, cophosis, delirium, and a dry and tremulous tongue take place. The disease mostly terminates about the fourteenth day.

Dengue Fever. This name has been given to a disease which appeared in the year 1828, in the West Indies, and in the southern States of North America: it has also been called the *dingee*, the *danga*, the dandy, the bouquet, and the bucket fever. This disease was remarkable for the suddenness of its attacks, the great numbers affected, the severity of the symptoms, and the rareness of death from it. It would seem from the reports of those who have seen most of this disease, and whose judgment may be relied on, that the dengue has some affinities with the yellow fever. The symptoms as noticed in Havanna were first, great languor, chilliness and pain in the tendons of the smaller joints; following these, were burning heat and redness of the skin, pains in the muscles of the limbs, or pain in the forehead, and a loathing or vomiting of whatever was taken into the stomach. The fever continued for

one, two, or three days, and then usually terminated with abundant sweating, which freed the patient, likewise, from his pains. But many, after leaving their beds, suffered by a renewal of their pains, which, in some, have become chronic; others have also had a renewed attack of the fever. "The most usual mode of attack, however," says Dr. Stedman, of Santa Cruz, "which appears not a little singular, was the following: A person in perfect health would suddenly feel a stiffness, amounting almost to pain, in one of his fingers, and most frequently in his little finger. The stiffness increased, and was accompanied with an intense degree of pain, which spread rapidly over the whole hand, and up the arm to the shoulder. The fingers in both hands, in a few hours, became swelled, stiff and painful, preventing all attempts at bending the joints." To this succeeded restlessness, depression of spirits, nausea, vomiting, shivering, great heat, intense headache, most acute pain in every joint. The most distressing symptoms were intense pain in the eye-balls and back, the eyes seeming to the patient enlarged, filling the sockets, and as if ready to burst. Quite a remarkable symptom was the feeling of intense cold, while at the same time the skin was intensely hot. These symptoms continued from twenty-four to thirty-six hours. The patient now remained languid, irritable and restless for about three days, when it was not uncommon for a new attack to come on, accompanied by an efflorescence, beginning at the palms of the hands, and extending thence over the whole body. Secondary symptoms, consisting principally of pain and stiffness in the limbs and body followed, which, in many cases, continued for weeks, and made the patient most uncomfortable. Sometimes there was distressing itching; and in some cases there was swelling of the præpuce and scrotum, and in others, a discharge from the urethra, resembling gonorrhea. Dr. Steidman considers the disease contagious.

Stimulating embrocations, mustard poultices, and the like, were employed in the treatment of this disease; the latter were applied to the temples, to relieve the pain in the eye-

balls, to the back, the back of the neck, etc., as indicated, and *always with advantage*.

TREATMENT.

In the various forms of fever enumerated in the preceding article, we have noticed that there is a very great similarity of treatment adopted by the most eminent physicians. The variations are so trifling, that he who could successfully treat one form by the method pointed out, would not be at a loss to adapt the means in his possession, to another. In our experience in fevers, we have noticed the same fact; we have never found any difficulty in overcoming all forms of fever, by an application of our remedies for fever; and we never have been at a loss, to so modify them as to meet the variety of cases which come within our notice.

Note.—It would be irrelevant to the development of a correct idea, to go into a minute detail of the nosology of that class of diseases, called by Cullen, *Pyrexia*. Its classification into orders, and those into genera, and those again, into species, are but an accumulation of names for many slight variations of type, arising, probably, from peculiar constitutional causes. Whatever be their form, their nature is the same.

The causes and progress of fever have hitherto remained inexplicable. No man has had a power of discernment sufficient to penetrate the mystic phenomena. When the febrile and other symptoms have disappeared, or during the intermission, what becomes of the disease? why, at its appointed hour, does it invariably occur? These questions have never been answered. Waving the assumption of any hypothesis on these controverted points, we will proceed to the treatment we have uniformly found successful, for the removal of these distressing complaints. Were we to attempt a disquisition of their *modus operandi*, here again we should approach a point of extensive controversy. One author strenuously advocates lymphatic absorption, another nervous absorption, and another the nervous sympathy, and the like. For obvious

reasons, we leave every thing doctrinal for the physiologist to speculate upon.

In the adaptation of our remedies for fevers, we embrace the generally received opinion; and it is our conviction, resulting from practice, that fevers differ only in the degree and duration of their violence, and, consequently, the same course of treatment will apply, to a certain extent, in every form of the malady.

We acknowledge that it requires more credulity than people are generally habituated to exercise, to believe that the worst forms of fever can be cured, without the exhibition of either emetics, cathartics, or injections.

Some gentlemen of professed science, unacquainted with our remedies, argue that such results are opposed to the principles of science. But the vast number of cases which have yielded to this mode of treatment, have established the fact in the minds of all who have made a fair trial—we say *all*, for we have never known or heard of a single failure, where our remedies have been properly used according to directions, and we know of many cases which have been cured, after having been pronounced incurable by the ablest physicians in the United States.

1st. Apply our Fever Liniment freely to the body and to the soles of the feet, with much friction; bind plasters of the same on the soles the feet, and place warm bricks to the feet and sides.

2d. Take a tea-spoonful of the Diaphoretic Drops, diluted in warm water sweetened, once in twenty minutes, until a profuse perspiration takes place. This course will soon reduce the febrile symptoms, and relieve the patient from pain. In some cases, although the external heat may appear to be increased for a short time, and produce an impression that the fever is increased, yet upon examining the pulse, it will be found to indicate the contrary.

3d. The same Liniment may be applied to the stomach on a plaster, which will supersede the necessity of administering an emetic.

4th. If the application of the Liniment do not give full relief, it may be repeated in four hours, or oftener, if necessary. In extreme cases of congestive or typhus fever, the saline bath may be used to advantage, which consists of warm water, in which three quarts of salt are added to twelve pailsful of water; in this the patient may be bathed for the space of fifteen minutes; then wipe dry, rubbing the body well with cloths, and applying the Liniment freely.

5th. After the symptoms of disease are removed, the patient may be washed off with soap suds, then with salt and water, and wiped dry; after which, apply as before, the Stimulating or Fever Liniment, giving the preference to the former if at hand, being more tonic and less diaphoretic in its effects.

Many persons, after undergoing a copious perspiration by means of the Fever Liniment, upon its subsiding, have apprehensions of taking cold—to prevent which, it is important for them to make a free application to the body, of the Stimulating Liniment, as that previously applied has become absorbed into the system. This course renders the patient less liable to the effects of the atmosphere, and is indispensably necessary to invigorate by its tonic properties, and overcome the debilitating and febrile symptoms. This course should be repeated once or twice a day for a while, even if no paroxysm of fever should occur, after the attack is arrested. In cases of fever and ague, where it can be done, let the Fever Liniment be applied, accompanied by our Diaphoretic Drops, in the manner first stated, about half an hour previous to the time of the expected chill, until a profuse perspiration is produced; or if the chill arrive before the application can be made, then, during the paroxysm of the chill or succeeding fever, apply the Fever Liniment in the same manner, which will very generally arrest the disease, and entirely prevent a return of chill and fever; and, by the patient applying the Liniment once or twice a day, for a few days, he will be entirely restored to health and strength.

In severe cases of pleurisy, apply the Fever or Stimulating Liniment over the region of pain, with a warm brick, or a

bag of hops or meal, which will directly arrest the extreme suffering, and, if followed up in a similar manner to the foregoing, according to the violence of the attack, and relief experienced, will overcome the disease, and entirely supersede any resort to the lancet, or to blistering.

Our remedies for fever are the most valuable of any of our preparations, and when they become fully known, will be so estimated by the various orders of physicians, as well as by the general people.

In many severe cases of fever, it is recommended to soak the feet, and wash the whole surface of the body in warm water, before the first application of the Liniment.

YELLOW FEVER.

THIS fever is one of a specific character, and generally confined to situations in which much moisture is joined to great heat. It prevails in Asia, the West Indies, South America, in the southern, and sometimes in the northern parts of the United States. It is endemial in many portions of the globe, especially in the tropical climates, and sometimes it is epidemic in northern latitudes, as at Baltimore, Philadelphia, and New-York. It is most common in sea-ports and near large bodies of water, but occasionally it is found in inland situations. It is said to differ materially from the endemial remittant of tropical countries, and is of course not merely an exaggerated form of the bilious remittent of such places. It differs from the endemial remittent of the West Indies, in only attacking strangers to such climates. The natives and such as have lived long in similar situations, are altogether exempt from its attack; and, should the stranger survive the dangers of an attack, he remains generally safe for the future, though not exempt from the endemial remittent of the place. Should the stranger escape for a year or two, he becomes acclimated, and is no longer liable to be attacked by the scourge.

The yellow fever has heretofore been looked upon as contagious; but this notion is now generally abandoned by those best qualified to judge of the fact. Its rapid spread may be accounted for, on the principles which make it an epidemic. The disease differs essentially from all others in its mode of attack, and in the violence of its symptoms. In almost every other febrile affection, as a general rule, the risk is in proportion to the violence of the symptom; but the masked or insidious form of the yellow fever is most commonly the least manageable, and consequently the most dangerous. Hence the "*walking cases*" are almost sure to prove fatal. It is said there are three modes of attack in yellow fever; and the phenomena of each may vary, as the remote cause may have been more or less active or concentrated. They may also be influenced by individual habits or constitution, or by the force of occasional or exciting causes; and hence the disease is sometimes found to run its course very rapidly; that is, in from two to five days, some of the cases terminating in black vomit. In this form of the disorder the symptoms are generally less terrible and less distinctly marked, though more certainly and speedily fatal; or it may run on to the fifth or seventh day; and though the sufferings are of a more acute kind, the danger is less, as more time is given for the application of remedies; or it may present, like regularly-formed remittents, exacerbations, and remissions. If it assume this form, it may run on to the ninth or eleventh day. The first form observes no very regular time of attack, the evening is however the most common. The second generally takes place in the afternoon, and the third usually in the morning. The mode of attack is generally marked by the same train of symptoms, differing more in force than in character, if we except the first, which often has the peculiarity of betraying itself by scarcely any outward signs, except weakness, slight headache or nausea. This insidious character lulls the patient and his friends into fatal security. The patient has been known to walk about until within a few minutes of dissolution. The unmasked or violent attack of the yellow fever is,

therefore, less to be dreaded, than the seemingly mild form, as the derangement of the system is more palpable, though it is always highly dangerous. This disease differs in its attack from almost every other form of fever, as it is seldom ushered in by a well-defined chill, though the sensation of cold will sometimes remain a long time before reaction will take place. Much languor is always experienced, with intense headache, distress about the precordia, and the eyes are of a peculiarly red color. The heat of the skin is seldom great in the beginning, but it soon increases in intensity. The pulse is rarely open and strong; indeed, it appears to the careful observer, rather more feeble than usual, and is thereby sometimes betrayed into a dangerous security. The face assumes a peculiar flush, which is different from the redness of ordinary fever. This flushing gives a very marked character to the countenance, and can never be mistaken, by an eye experienced in this disease, for symptoms of common fever; on the contrary, it always denotes a high degree of yellow fever. The tongue is usually moist and clammy; but rarely dry, rough or red, at the commencement, though these conditions of this organ are sure to follow in a short time. The skin is for the most part dry and harsh, though it occasionally is found wet with hot perspiration. This sweat is sometimes early in its appearance, and, at times, extremely profuse, but it neither abates the action of the heart and arteries, nor mitigates the local sufferings—as headache, pain in the limbs, or oppression in the lungs. It therefore betrays the malignancy of the disease. There is seldom an abatement at any period of the day which would amount to a remission, though there is frequently an exacerbation that is very alarming from its intensity; and this may happen twice or even thrice in the twenty-four hours. Where this happens, the disease proceeds with hasty strides to its fatal termination; for should not remedies at this time very soon after their application abate the severity of the symptoms, more fatal symptoms quickly supervene; the eye becomes more red; lividity is added to the deep toned color of the cheek; the tenderness is much in-

creased by pressure over the region of the stomach; nausea and vomiting commence or intervene; the patient tosses himself into every position; delirium ensues; the urine becomes intense in color, and small in quantity; the extremities lose their heat; the gums become swollen and livid, the tongue red or brown, and dry; thirst insatiable, and the drinks are ejected perhaps as fast as swallowed. After a continuance of these symptoms for a few hours, the system seems to make a compromise with the disease, and passively yields to its power. There is no diminution of danger at this moment, though the system seems less morbidly excited; for if the suffering be less, danger is increased. Now the stomach gives way; the most tormenting nausea and thirst, with almost incessant vomiting, take place. The fluids discharged are, for the most part, nothing but the drinks the patient has swallowed; for these, even in the beginning, are seldom tinged with bile. But the threatening change soon follows—the fluids become thicker, and somewhat viscous, and are now found to have mixed with them, flaky substances of a dark color. These flaky substances, there is reason to believe, are portions of the viscous coat of the stomach, detached, and made to mix with the ejected fluids by the effort of vomiting. The urine at this time is usually very scanty, or may be suppressed; the bowels are tardy, or yield a blackish looking substance, of considerable tenacity, and much resembling tar. The whole surface of the body with the exception, perhaps, of the abdomen, is colder than natural; sometimes dry, sometimes moist; the hands and feet are deathly cold, and mottled with stagnating blood; the pulse is feeble, fluttering, or extinct. Sleep forsakes the patient, or he doses only to suffer more; his respiration is hurried, or preternaturally slow. Sometimes the patient remains in the full possession of reason, until the last moment of life. Some die tranquilly, declaring that nothing ailed them; while others die in great agony. This happens generally when delirium is present, and when the brain, from sympathy, seems to sustain the great force of attack. The patient may become more tranquil,

from an evident mitigation of all the severer symptoms, and this short-lived trance, gives rise, in the inexperienced, to hopes that are never to be realized; for now the yellowness of the skin begins to show itself, and becomes the harbinger of the dreaded "*black vomit*." This matter is thrown from the stomach, sometimes in incredible quantities, and in various shades of color. It is ejected with very little effort, and the patient, for the most part, denies the existence of pain. Black vomit does not always precede death. But when this is the case, its place is supplied by the eructation of prodigious quantities of gas, rapidly and constantly secreted by the stomach. The gums and other portions of the body, at this time yield considerable quantities of blood, which renders the aspect of the patient truly hideous. The teeth become incrustrated; the tongue grows black and dry; the pulse is slow and feeble, or at the wrist perhaps imperceptible; the skin and extremities are cold; coma or low muttering delirium takes place; sometimes there are convulsions; finally death ensues.

This fever is not inevitably fatal, though the prognosis must always be unfavorable. If the disease have commenced in an open undisguised form, the chance is increased; but if the attack be insidious, the danger is almost always in proportion to the absence of prominent or decided symptoms. If the disease assume, or can be made to put on a regular form, that is, if its remissions and exacerbations be in pretty regular order, though the symptoms run high, there appears a better chance of increasing the one, and moderating the other. But, on the other hand, if the disease manifest no tendency to regular remission, the risk is greatly augmented. If the patient sigh deeply immediately after waking, and before he has recovered the power of speech, the presage is bad; or if he complain much of soreness and pain, without the part having any morbid appearance, it is equally unfavorable. Those whose arms become rigid recover seldom; and those who have an entire suppression of urine, never. Black vomit is always a very unfavorable symptom, especially when at-

tended by hiccough; but it is not necessarily a fatal one, particularly in younger people. The "*puking of wind*" as it is called, is perhaps as deadly a symptom as the black vomit. On the other hand, should there be a general abatement of the symptoms, especially less headache, with a softened skin, a generally and equally distributed warmth over the body, diminution of thirst, without nausea and vomiting, the tongue beginning to clean, less tenderness in the epigastrium, bilious fœcal discharges, a free flow of bright colored urine, a moderate and generally diffused perspiration after the abatement of the exacerbation, the disease may be considered less desperate, and as tending to a healthy solution.

The pulse in this disease, is less affected than in most severe complaints. Indeed but little dependence can be put upon it. Sometimes it will resemble the appearance of health at the worst stages of the complaint; at others, it has been known to have entirely ceased, and afterwards the patient recovered.

TREATMENT.

An eminent writer on the treatment of yellow fever, has made the following observations:

"The treatment of this disease is very far from being as efficacious or as certain as its danger requires; yet it is not so fatal, under favorable circumstances, as might at first sight be supposed. In tropical climates, it rages among strangers almost exclusively; and these, for the most part, are of a description unable to procure the means of mitigating or averting danger. In northerly situations, where the disease is, as it were, accidental, the mortality, under the best circumstances, is considerably less, though very much too great. We may attribute some portion of the mortality to the views that have been taken of the habits and nature of the disease. The supposition of its contagion, increases the mortality, by withholding the necessary aid from the afflicted, under apprehension of danger; while others are sacrificed through the means of a multitude of hypotheses. The opinion is now, however, daily gaining ground, that yellow fever is essentially an in-

flammatory disease, and one which requires a vigorous and strictly antiphlogistic plan of treatment. But neither a correct pathology, nor the best concerted means, will avail, if the proper time for their application be lost. Yellow fever, as stated by the best authors, must be looked upon as an *exquisite gastritis*; it is for the relief of this condition of the stomach almost exclusively, that remedies are to be sought. The oppressed pulse in this disease, always acquires vigor by the loss of blood. The quantity to be taken at any given time, cannot be readily defined; for this state of the arterial system may require a large quantity of blood to relieve it, or the pulse may become free and open by the abstraction of only a few ounces. The management of the bleeding must, therefore, be left to the discretion of the medical attendant. If the pulse rise, as it is wont to do under this condition of the system, by the loss of blood, its abstraction should be continued until it becomes soft under the finger. Nor can any rule be laid down for the repetition of bleeding, but one—namely, that recourse must be had to it whenever the system reacts with force, by which every symptom becomes aggravated, even if this occur several times in twenty-four hours. It is mainly owing to not taking down the excess of action at the heart and arteries, when it occurs, that fatal disorganization takes place so frequently; therefore, every paroxysm should be carefully watched, that no one pass without having the force of the pulse abated, by the loss of blood; for it may be confidently said, that the system never reacts forcibly in this disease when it will not bear the abstraction of blood, either generally or tropically. If tropical bleeding be resorted to, it must be from the epigastrium; therefore, either leeching or cupping must be the mode of abstraction. This state of the system is rarely found, however, after the expiration of eight and forty hours, unless the disease have been vigorously treated by previous blood letting. Should this period have been lost, bleeding from the general system can rarely be successful—tropical bleeding alone now promises relief; and this may be tried at any period of the disease, if

the epigastrium remain active. As regards the feebleness of reaction, as just stated, we must not be mistaken in its causes in the beginning of this disease; as it is almost sure to depend on the *depressed state of the pulse*; for after the blood has been taken, in an appropriate quantity, the heat of the skin, and the activity of the pulse, will both increase. But it is always proper when reaction is feeble, the skin cooler than natural, and the extremities perhaps *cold*, but certainly preternaturally cool, to use *external* stimuli, with a view of aiding the powers of the system, in their efforts to produce a warmth upon the surface. Bottles or jugs of hot water, heated bricks, sinapisms, Cayenne pepper, etc., should be applied to the feet and legs, until proper warmth be restored. The bowels should be freely opened, but not violently purged; for this purpose, cathartic medicine should be given immediately after bleeding, followed up in three hours by another dose, if it do not operate previous to the expiration of that time. During the whole disease, the bowels should be kept open by mild purgatives or injections; for purging freely is uniformly hurtful, unless on the decline of the disease, and after the liver has begun to secrete large quantities of bile, which requires to be carried off. The mildest drinks should be given during the attempt at cure, and those a little tepid. Ice may be swallowed in small portions, when it can be procured; also, gum-arabic water, barley water, slippery-elm bark tea, linseed tea, etc. Drinks should be given in small quantities at a time, lest the stomach reject them. If there be much sickness at the stomach, attended by much tenderness upon pressure, the epigastrium should be leeches or cupped; and this may be followed by a blister, if the nausea or vomiting continue. Should the headache be great after due depletion from the arm, the temporal artery may be opened, or leeches or cups be applied to the temples, behind the ears, and to the back of the neck. Under these circumstances, if the feet be cold, they should be placed in hot water, with which is mingled a quantity of the flour of mustard, and the feet suffered to remain in it for fifteen or twenty minutes. This may be

repeated, *pro re nata*. Fresh air ought to be admitted into the room; bed clothes and body linen changed as often as practicable; light excluded, and noise prohibited. Stimulants ought not, in large quantities, to be taken into the stomach, which will augment the danger, while bleeding only diminishes the power of reaction. In the first stages of yellow fever, where recourse is had to internal stimulants, the cases are almost uniformly fatal; whereas bleeding, even when injudiciously employed, only depresses the system, which may recover by the aid of *external* stimuli, and the case is not so desperate, as when stimuli have been thrown into the stomach during the state of active inflammation. In the case, however, under consideration, it is only the abuse of the proper remedy; for if the abstraction of blood be judiciously made in this state of the system, the system, instead of becoming prostrate, will react promptly; for the pulse, in the beginning of this disease is in a state of depression, as has already been explained, and not of *absolute weakness*; for there have been cases of recovery, as already stated, after spontaneous hemorrhage from various parts of the body, but when the abstraction of blood from the general system, by the lancet, would certainly have proved fatal. Nausea and vomiting are troublesome conditions of the stomach, and its relief should be attempted by leeching, cupping, and blistering, over its region, by Seltzer water, the effervescing draught, lime water, milk, etc., but rarely in the beginning of the disease by stimulants. After decided marks of debility, clove tea, mint tea, or strong coffee, with mustard to the epigastrium, may be tried. Where the black vomit has come on, the spirit of turpentine, with the oil of cinnamon, has been of permanent benefit. Hiccough is sometimes extremely distressing in this complaint. Camphor, in doses of from five to ten grains, will sometimes relieve it. Should it offend the stomach, it may be given very advantageously in a gill of rich flaxseed tea, and thin starch, or mucilage, of gum arabic as an enema. The utmost attention must be constantly paid to the patient, by the nurse; he should have fresh air, constant and frequent renewal of fresh, clean linen and bed clothes."

The preceding quotation embraces the most approved treatment of yellow fever, as adopted by the ablest physicians in the West Indies, and the United States. It appears obvious that the important objects to be attained by the treatment laid down by these physicians, are—

1st. To reduce the general inflammatory symptoms by an antiphlogistic treatment.

2d. To reduce the inflammation and paroxysms of the epigastric region, by the abstraction of blood; and also to relieve the arterial system, and take down the excess of action at the heart, by the same process, or by cupping and leeching.

3d. To cause the liver to perform its usual office of secreting the bile, by the application of leeches and blisters.

4th. To arrest the determination of inflammation to the head, by a resort to cold applications thereto.

5th. To keep the bowels free and active, by cathartics and injections.

The recommendations for the relief of black vomit, hiccough, and for determining the heat to the surface and extremities, are such as have generally proven successful.

Treatment by our external remedies:

1st. To reduce the general inflammatory symptoms, we apply our Fever Liniment in the same manner as we do in bilious, typhus, and congestive fevers, with this difference, that we make a more *full* and *frequent* application, and in producing a powerful perspiration for the first and perhaps the second time. We give but about one half the quantity of Diaphoretic Drops, that are administered in other cases. This treatment will cause a free circulation of the blood through the system, and at the same time eject large quantities of morbid matter, through the perspirable pores. The tonics contained in the Liniment which has entered the cutaneous absorbing pores, will powerfully sustain the patient, through the sweating process; and the inflammation measurably subsides at the same time, by the final application. Here it may be observed that the patient is much relieved from

distress; a relief so obvious that his own confidence in this mode of treatment will be considerably strengthened.

This treatment is more sure and safe than the antiphlogistic, which, though it may afford temporary relief, still leaves the patient burthened, and liable to contend with the disease unconquered. He is by weakness, less able to grapple with the second paroxysm than the first, while through the application of our remedies he has not only parted with a share of the disease, but is strengthened and made better able to contend with the second paroxysm, than with the first.

2d. To relieve the great distress in the epigastric region; to regulate the disorder of the arterial system, and to diminish the excess of action at the heart; we apply over these regions the same Liniment in plasters, upon which we place bottles of hot water, or bags of hot hops wet in vinegar, the object of which is to produce a more speedy entrance of the Liniment into the system. This treatment creates a powerful action in the organs affected, and permanent relief is to a certain extent, the result. There is no uncertainty in adopting this course; whereas it is acknowledged that nothing more than temporary relief is to be expected by the abstraction of blood; and farther, if bleeding be neglected or not performed at the proper moment, much injury to the patient is the result. It would seem to be absolutely necessary that the physician be present at the proper time for letting blood, and that he should be so well skilled in the disease as to judge with precision, in order to relieve the patient from a returning paroxysm. He should also be enabled to determine the quantity to be drawn at each bleeding. Unless all these conditions be complied with, the patient suffers injury instead of benefit. Another and a more serious difficulty presents itself in this mode of treatment. Though the patient by the abstraction of blood for the moment find relief; still the disease remains unconquered, and by the debilitating process of blood letting, the patient is less able to sustain the accumulated load with which the system becomes burthened, and nature, unassisted, is compelled into an unequal contest. This is not the case

when our remedies are applied; for they impart to her strength to unburthen herself of the disease.

3d. To enable the liver to perform its secretory office, we apply a plaster of Stimulating Liniment over the region of that organ, to which warmth may be added to render the Liniment more quickly active. By this process, the torpidity of the liver is removed; bile is secreted; and the bowels more readily perform their office. By this treatment much advantage is gained over that of leeching and blistering; because the effects intended to be produced by the latter practice, are thus more readily obtained and more permanently secured. It is not contended that any thing more than temporary relief can be expected from leeching and blistering, and that only after a considerable lapse of time; whereas, by our mode of treatment, relief is obtained at once. In every instance of torpidity of the liver, or of any affection of that organ, we have been enabled to effect relief by our external remedies.

4th. We arrest the determination of inflammation to the head, by an application of our Stimulating Liniment, in the same manner as we have frequently done in cases of hydrocephalus. Let the Liniment be applied to the top and back part of the head, and behind the ears, etc.—repeat such application as often as once in two or three hours. We also apply the same Liniment to the bottom of the feet. This treatment gives action to the organs affected, and in the course of three or four hours, relief will be obtained. We have by these means always succeeded in arresting inflammation, better than those who have made cold applications. In the one case, action is imparted, and the cause removed; in the other a torpid state of the organs is the result, and the disease remains unsubdued.

5th. Let the Liniment be freely and often applied over the abdominal region, which in a great measure will relieve the torpidity of the bowels; so much so that gentle physic or occasional injections will generally enable the bowels to perform their office.

We are opposed to administering large doses of strong

medicine internally, especially at the commencement of the attack. It is far better to rely on the external applications, as there can be no danger in them, be they ever so abundant. The Liniment passes into the system in small portions, through the cutaneous absorbing pores. Sometimes we have mixed six or eight drops of Croton oil with one eighth of an ounce of Liniment, in order to move the bowels. This is safer than strong doses of physic internally given. In the treatment of yellow fever our great object is to relieve the system of the worst features of this disease, by producing a speedy action of all the circulating fluids of the body. In some cases, this free circulation is not easily obtained, owing to various causes, but generally in consequence of the morbid state of the system. When this is the case, much benefit may be derived from a use of the saline bath. Let the patient be immersed in as hot a bath as he can bear, and apply the flesh brush freely to all parts of the body; by so doing, the pores are opened, and the absorbents will more readily receive the Liniment; for let it be remembered that the quickness of relief is just in proportion to the rapidity with which the Liniment is introduced into the system. After the disease is overcome, the patient is invigorated, and less liable to attacks of chronic complaints than those who are treated according to the usual practice. There are no lingering, wandering pains; no remnants of the disease lurking in the system; no nervous affections or hectic cough. The system is invigorated; the stomach performs its healthy action, the bowels are regular, and the patient may look forward to the cheering prospect of continued health.

SPOTTED FEVER.

AN epidemic disease now generally recognized by the name of *spotted fever*, prevailed extensively in many parts of New-England, and in some parts of several other of the American States, at different times between the years 1806

and 1815. A few cases of the disease occurred at Medfield, Massachusetts, about thirty miles south-west of Boston, in March, 1806. The number was small, however, not exceeding twenty, and the disorder did not so extend itself as to attract general attention until the following year. In March and April, 1807, it appeared in Hartford, Connecticut, and in several other places on the Connecticut river; and also in Williamstown, in the north-west part of Massachusetts, and the Green mountain range. It disappeared during the summer, but returned the following winter, visiting, in some instances, the same places, besides many others in their neighborhood, and in similar situations, and also attacking other and detached parts of New-England. The disease followed a similar course for several succeeding years. It disappeared during the summer, and returned in winter, and for several years, until 1813, it became each year more extensive and more destructive. In some of these years, it also prevailed extensively in the interior of the States of New-York and Pennsylvania. In 1812, the troops of the United States army suffered by it severely, at various places in New-York and Vermont. After 1813, the disease rapidly diminished, although it still continued destructive, especially in some parts of Maine. It finally ceased in the spring of 1815. The last place visited by it, so far as our information extends, was Berwick, in Maine. There have indeed been some occasional reports of the prevalence of a similar disease, at different times since that period; but it may well be doubted whether any of them actually refer to the true spotted fever, as it prevailed from 1807 to 1815.

This concise sketch of the progress of the epidemic shows that it prevailed much less in summer than in winter. In fact, it was only during a part of the colder season of the year, that the disease raged most severely. Unlike the ordinary typhus fever of our climate, it was much less frequent through the autumn and the earlier part of winter than during the latter months of winter, and the first months of spring. It is worthy of remark, that the disease, in a great measure, avoided the

large towns on the sea coast. Although it pervaded at different times, almost the whole of the interior of New-England, Boston and the other large towns were only slightly affected by it. In the interior also, the epidemic was not more prevalent, perhaps even less so, in the larger and more crowded villages, than in the less populous places. This is the more remarkable, since those persons whose modes of life render them peculiarly susceptible to disease of every kind, are more frequently collected in large towns and villages. But this epidemic seemed scarcely to regard peculiar susceptibilities of any kind. The man, whose constitution was exhausted by excesses, unavoidably yielded more readily when attacked, and fell a more certain victim, than the man of temperance and regular habits. But it does not appear that such were more frequently attacked than others. On the contrary, the disease seemed rather to select the healthy and vigorous. Although in its range, it embraced persons in every period of life from childhood to old age, yet the proportion of cases and of deaths was much greater among adults of mature age, of firm health, and of habits every way calculated to resist ordinary disease. In many an agricultural town in New-England, the correct, virtuous, and middle aged heads of families, were swept off in such numbers as to leave a mournful vacancy in the general aspect of the community, which is even now observable, after the space of twenty years, in the absence of old men from congregations assembled for their weekly public worship.

Of the extent of mortality produced by spotted fever, there are no means of obtaining accurate knowledge. Except in the larger towns, no returns are preserved of the number of deaths, or their causes. There are, therefore, no data upon which to found an estimate of the destruction of life, caused by this epidemic. It was, however very great, and from the character and relative station of many of its victims, peculiarly afflicting. The visitation too, was sudden, and, therefore, produced the greater alarm and distress. In some instances, the disease visited a place twice, or even three times;

but, in general, its work was accomplished in a single visitation of a few weeks duration. Dr. Gallup remarks of the epidemic in Vermont, that "There are but few towns whose surviving inhabitants will not long, with grief, remember the winter of 1812-13, for the loss of twenty, forty, or eighty of their most valuable citizens—most valuable to society, on account of their being in the prime of life."

Of the causes of spotted fever, no satisfactory account can be given. There was nothing in the habits of the disease, or the manner in which it proceeded from place to place, to countenance the theory of contagion; and such a theory we believe has never been suggested. It is difficult to reconcile the phenomena of this disease, to any of the other theories by which the progress of epidemics has been explained. If we attribute it to some secret atmospheric influence, it is not easy to account for their regular and fitful manner, in which it lighted upon detached and distant places almost at the same moment, while intermediate places were passed by for the time, only to be the subjects of a future visitation. It is still more improbable that exhalations from the surface of the earth could have been its cause, for the favorite season of the disease was fast locked in frost. For a time many physicians were inclined to suppose that ergot in the rye, which is much used in New-England, might have contributed to produce the disease. But it has never been shown that ergot was more abundant in those years in which the epidemic prevailed, than in others; and what is still more conclusive, the disease was not confined to those districts, in which rye was used for bread. We must, therefore, regard the peculiar causes of spotted fever, as altogether unknown.

In the description of the disease, we must necessarily be very brief. There were two leading forms of it. One was a simple fever of a peculiar character. The other was complicated by local inflammation, but it still retained the same general character as the other. The more simple form began, like most other fevers, with coldness, not generally with distinct shivering; pain in the head and back, and especially in the

limbs; prostration of strength, etc. In the milder cases, this was followed, as in other fevers, with some degree of reaction, manifested by heat, and afterwards by sweating; but, unless aided by proper remedies, the reaction was very imperfect; the coldness soon returned, with a peculiar want of action over the whole system. The surface of the body lost its peculiar elasticity, and had in its stead a torpid, half œdematous, doughy feeling. Near the close of life, it was covered with a profuse perspiration. The stomach early became irritable, and rejected whatever was put into it, though without much vomiting of any thing else. The prostration increased, and was accompanied by violent pains in the back or limbs, which frequently changed from place to place, but without spasms of any kind. In many cases, delirium came on very early. In most instances, as the strength of the patient failed, the mind became obscured, and he died comatose. In the more severe form of the disease, this comatose state followed the first attack, without any intervention of a stage of reaction: the patient became insensible, and died in a few hours. It was generally in this severe form that the spots, or *petechiæ*, appeared, which gave the name of spotted fever to the epidemic. They were not, however, confined to the more violent, or to the fatal cases, but were occasionally found in those which were comparatively mild. Neither, on the other hand, were they, by any means, general in the severer cases. In the earlier periods of the epidemic, they were much more common than towards the close of its progress. When they did appear, the spots were generally small blotches, caused by blood extravasated into the cellular membrane under the skin, of a dark purple color. In many other cases, there was a slight eruption of a very different character, which seemed to be caused by the excited state of the skin, where the diaphoretic and stimulating mode of treatment was carried to a great extent. About the beginning of the year 1812, the spotted fever first began to assume a new form, in many cases, by becoming complicated with some local inflammation. This inflammation was sometimes in the throat, producing a species

of cynanche; but its more common seat was in some one or more of the textures of the lungs. The fever, however, still retained the same general character as before; and in most of the places where this form of the disease prevailed, frequent cases of the more simple form were intermingled with it. The cases with inflammation were ushered in, rather more frequently than the others, with a distinct chill; and this was oftener, perhaps, followed by a distinct reaction; but the general disease did not in these cases, any more than in the others, retain an inflammatory character. On the contrary, it ran speedily into a state of great depression; and when death ensued, it seemed to be less from the influence of the pulmonic symptoms, than from the violence of the general disease. There was pain in the chest, with cough, and bloody expectoration; but these symptoms, although sometimes severe in the commencement of the disease, rarely retained their prominence so long as to appear to exert a very important influence upon its course, or to demand much consideration in the treatment, beyond what was necessary to give relief to the symptoms themselves. There were many other varieties in the modifications of the spotted fever, which the limits of this sketch will not permit us to notice; for it assumed a greater diversity of forms and appearances than most diseases. It was always sudden and abrupt in its attack, as we have here described it, but sometimes crept on silently, slowly converting a slight indisposition into a severe, and often fatal disorder. In whatever form it appeared, however, it exhibited the same general character of great prostration and debility. Little is known of its pathological character, except what has been learned by inferences from its description and history. Only a few examinations after death, were made. The state of public feeling throughout the interior of New England was much less favorable to such examinations, twenty years ago, than it is now; and the medical profession were then much less accustomed to press the importance of this mode of investigation, than at present. Such examinations as were made, have done little to enlighten us in regard to the essen-

tial character of the disease. And had they been much more numerous, the result would probably have been no more conclusive, than that of similar observations in respect to the nature of fever in general. The blood was found to remain fluid for some hours after death. It consequently flowed to the depending parts, giving a dark color to the skin in those parts, which was often mistaken by careless observers for putrefaction. But putrefaction did not begin early after death. The vessels of the brain, as might be expected from the comatose state which preceded most of the deaths, were found to be turgid with blood, and there was more or less effusion of serum into the ventricles, and sometimes of lymph under the arachnoid. In the chest, the heart sometimes exhibited marks of disease, its vessels being peculiarly injected with blood. The lungs, in the cases of simple spotted fever, were healthy. We have seen few accounts of dissections in the pneumonic form of the disease. In some cases ulcerations, of a peculiar character, with black, gangrenous edges, were found in the pleura of the lungs, extending deep into the substance of the organ. This appearance can hardly have existed, except in the severest form of pneumonic affection. But we do not remember any description of marks of inflammation in the lungs, which did not involve the serous membrane, although, from the symptoms, it can hardly be doubted that many such cases existed. The abdominal viscera were generally healthy. The gall bladder, and the urinary bladder, were filled with their appropriate fluids, showing that the secretions had been carried on until death. The result of our pathological observations is, that this disease was a fever, having a peculiar tendency to run rapidly into a state of great prostration and debility, and often more or less complicated with local inflammation of an erysipelatous character.

The practice which had been previously applied to ordinary fevers, was so entirely unsuccessful in the treatment of spotted fever, that many of the practitioners, on whom the management of the disease at first devolved, seem early to have lost all confidence, not only in such a course of practice, but also

in the resources of professional skill and science, and for a time to have abandoned themselves and their patients to empirical experiments. A respectable writer gives the credit to a worthy matron, of the first discovery of a successful treatment. This consisted in exciting a profuse perspiration, by drinking large quantities of a decoction of the leaves and twigs of the ground hemlock, or dwarf yew, aided by a rude sort of vapor bath, made by boiling billets of wood (of hemlock, if to be obtained), and laying them, wrapped in cloths, in bed with the patient, who was at the same time to be kept highly stimulated with brandy, and other diffusible stimulants. But the more judicious and scientific part of the profession, were not long in adapting their treatment to the true state of the disease. Adopting a hint, perhaps, from the effects of the empirical sweating and stimulating, which soon became common, they were able to pursue a course of diaphoretics and stimulants which, while avoiding the dangers of empirical excess, was eminently successful in arresting the fatal tendency of the disease. Such diaphoretics were selected, as, while they act promptly and surely, have the least tendency to induce debility. A moist heat, applied externally, added much to the efficacy of internal diaphoretics. A combination of ipecacuanha, opium, and camphor, with sometimes the addition of calomel, was much used, and with the best effects. It was necessary that a gentle diaphoresis should be constantly preserved, always with great care, avoiding profuse sweating. The true measure of the use of stimulants, was the preservation of a healthful temperature and an equable pulse. In some cases, the tendency to coldness and prostration was so great, that large quantities of the most powerful stimulants were necessary. Brandy in hot water, tincture of cinnamon, tincture of opium, with tinctures of peppermint and lavender, were among the best; and these were to be used, not so much in reference to the quantities given, as the effects produced. Very early in the disease, almost as soon as a diaphoresis was established, tonics of a more permanent character were employed. The cinchona, in its different modes of administra-

tion, was chiefly relied on. A favorite mode of using it, by many physicians, was in a fermented decoction, with orange peel and serpentaria. A nutritious and rather stimulating liquid diet was also prescribed quite early in the disease. Emetics were avoided, or used only when there were manifest symptoms of decided derangement of the stomach; and cathartics were only used to remove costiveness, and then none but the mildest laxatives were to be administered. In the pulmonic form of the disease, blisters and expectorants were added to the other means. It was sometimes necessary, on account of the cough, etc., to defer a little the use of cinchona and other tonics; but this did not often happen, and it never appeared safe to wait for a decided convalescence before resorting to them.

This is a mere outline of the treatment adopted by a large proportion of the most successful practitioners, in this singular and formidable disease. It of course admitted and required great diversity in its application to the many varieties of form and symptoms, which the disease assumed at different places, and in the several cases. There were a few physicians, however, who objected to such a stimulating practice, and insisted upon the necessity of blood letting and other evacuations, and who still contend that an anti-phlogistic course of treatment was the most successful. It may be said, indeed, that the prostration and debility must have been produced by some active disease, and if that disease could be arrested by early bleeding and other means, much of the prostration would be prevented. But, however true this may be in general, in the present instance, the good effects which generally followed a judicious course of stimulants, sufficiently showed that no such disorganization was produced by the disease, which was supposed to cause the debility, as to render it unsafe to trust to them to remove it. If the bleeding recommended had failed to prevent the sinking by arresting the disease, it must have increased the exhaustion, and consequently added to the difficulty of the cure. Moreover, to perceive accurately when it would be liable to do this, would

have required a nicety of discrimination greater than belongs to most medical practitioners, if indeed, it can ever be obtained. The results of the treatment were very various at different places. In many places, the disease, though violent and severe, yielded to remedies with a docility truly remarkable. At the same time, it required unceasing vigilance and care to prevent fatal relapses. In such places, most of the deaths *seemed* to result more from accidental imprudences or neglect, than from the incurable nature of the disease itself. In other places, the disease was speedily fatal to a large proportion of those attacked. In some small districts, twenty or thirty died in rapid succession, before any recovered. Much of this inequality is doubtless to be attributed to differences in the virulence of the epidemic itself. But there are many facts which go to show, that something must be ascribed to diversities of treatment. The comparison here intended is not between the diaphoretic and stimulating practice on the one hand, and the antiphlogistic on the other, so much as between each of these systems, and an awkward attempt to engraft one or the other of them upon a routine of earlier days, which many men found it difficult to abandon. To our minds the stimulating treatment, properly regulated, was incomparably preferable to the bleeding; but either was immeasurably better than the hesitating, inefficient practice to which we have alluded. If it were proper to go into details, many examples might be adduced, in which a change of practice was followed by a change of results, in the same neighborhood, and often in the same families, so immediate and so striking as to render it difficult to attribute the difference to any thing but the change of treatment.

The principal treatises on spotted fever, besides various papers in the several medical journals of the time, are North on Spotted Fever; Strong on ditto; Report of a committee of the Massachusetts Medical Society, published in the second volume of that Society's communications; Gallop on the Epidemics of Vermont; and Hale on the Spotted Fever in Gardiner.

Remark.—Whoever reads the foregoing article on spotted fever, and also on the practice we have adopted in fevers generally, will readily discover that more than twenty years ago the most successful practitioners in the United States, in that desperate predicament in which they were placed, adopted all of the essential principles of our system. The history of spotted fever is truly appalling! In the usual antiphlogistic treatment, almost all who were attacked fell victims to the disease; and so terrific had this fell destroyer become that *all stood aghast!* It is acknowledged that the physician abandoned his patient in despair; that he also lost all confidence in the science of medicine—until an aged matron discovered the means of arresting the direful march of death. She adopted the stimulating and diaphoretic practice. She caused large blocks of wood to be boiled and made hot, and laid them around the patient, which soon produced a proper perspiration. As a natural consequence, a reaction took place in the system. She gave large portions of brandy as a stimulant, which prevented the patient from sinking under the sweating process. The physicians took a hint from the result of this treatment and attempted to improve it. But how much their philosophical ingenuity exceeded that of the aged matron, the light which twenty years have shed upon the subject will show. Suffice it to say that they adopted all of the essential principles in this desperate disease, for which we now contend; and the history given by these same physicians shew conclusively that they adopted it with success. The difference arises only in the therapeutical agents which they used, and the agents of which our concentrated remedies are compounded, to produce the same effect.

With any medical man who has become acquainted with our remedies, we are willing to trust the decision. Here let it be remembered, however, that one of the most fatal epidemic fevers that ever visited any country, is acknowledged to have been successfully treated, without the exhibition of emetics or blood-letting.

SCARLET FEVER.

SCARLET FEVER (*Scarlatina*); a contagious fever, characterized by a scarlet colored eruption, in patches, which, after three or four days, fall off in scales. Some have asserted that *scarlatina* never attacks the same person a second time; but more extensive observation has falsified this opinion. It seizes persons of all ages; but children and young persons are most subject to it. It appears at all seasons of the year, but is more frequently met with towards the end of autumn, or beginning of winter, at which time it very often becomes a prevalent epidemic. *Scarlatina*, in its inflammatory form, is not usually attended with danger, although a considerable degree of delirium, in some instances, prevails for a day or two; but when it partakes much of the malignant character, (*scarlatina anginosa*,) or degenerates into *typhus putrida*, which it is apt to do, it often proves fatal.

TREATMENT.

It is truly astonishing, the readiness and certainty with which our remedies for fever overcome this complaint. The cases of scarlet fever which have heretofore been thus treated, have uniformly terminated successfully. But very little alteration from our usual treatment of fever, is required. If, however, delirium supervene, a very free application of our Nerve Liniment to the head, and of the Stimulating Liniment to the feet, will be of much service.

The patient has generally been relieved in one day, and it is not unfrequent for all *appearance* of disease to be overcome in forty-eight hours.

CHOLERA.

Cholera, *Cholera Morbus*, *Cholera Asphyxia*, *Cholera Maligna*, *Cholera Epidemica*, *Epidemic Cholera Fever*. All these names have been applied by different observers, to

a formidable disease, which has, for the first time, been recently known to be extensively epidemic in the world, and whose origin and ravages will be reckoned among the most remarkable events of the present century. Long prior to the appearance of the present epidemic in the Delta of the Ganges, in 1817, and its subsequent diffusion over so large a portion of the globe, extensive and destructive visitations of Cholera had been noticed by various writers. One of them, we learn, occurred in Europe at the close of the seventh century; but most of them originated in the East, and limited their devastations to that quarter of the world. The indefatigable Mr. Scott has quoted, from the Madras Courier of 1819, a letter which suggests the opinion that a description—though certainly a very obscure one—of disease resembling that which has prevailed, is to be found in a Hindoo work of great antiquity, and cites instances of the epidemic prevalence, and great fatality of cholera, from the time of Bontius, in 1629, to the present century; but the description of these epidemic visitations has not reached us in so detailed a form as to enable us to judge correctly of their identity with what has been recently observed. Enough, however, may be ascertained, to prevent our denying its identity in some instances. Indeed, it is impossible not to be struck with the resemblance which certain of the more accurately reported of these examples bear, to the disease now existing. But this much seems certain, that, however cases may, in previous visitations, have resembled in character the prevailing disease, no other recorded cholera epidemic has equaled this, in the wideness of its diffusion and extent of its ravages, or has preserved its character and intensity so little influenced by climate and temperature. The question of the identity of the disease which has prevailed in Great Britain, on the continent, and in the United States, with that which ravaged Hindostan, having been settled in the affirmative, at least as regards certain of their most important practical points, by the various respectable physicians who have witnessed both diseases, we may assume that much of the valuable information transmit-

ted to us from India, respecting the nature and treatment of the malady which raged there, is applicable to that which has ravaged Europe and America.

Symptoms of Cholera in India.—The disease generally makes its attack in the night, or towards morning, with such excessive vomiting, that the whole contents of the stomach appear to be discharged; and, nearly at the same time, the bowels are copiously emptied, as though all the solid matters in the intestinal canal were evacuated. In some cases, a watery purging precedes the vomiting by some hours; but they more frequently occur simultaneously. After the first copious discharge, the patient experiences a distressing feeling of exhaustion, and faintness, with ringing in the ears, and giddiness. The subsequent discharges from the stomach, and those from the bowels, do not differ in appearance from each other, excepting so far as the matters ejected from the stomach may be tinged by medicine, or other foreign ingesta; they are in general watery, colorless, and inodorous, and are compared in their appearance to barley broth, or more frequently to rice-water. Sometimes they are like milk, occasionally yellowish, greenish, like muddy water, or yeast; but the *congee stools*, as they are emphatically termed, which consist of albuminous flakes floating in serum, or discharges of pure serum, are of the most frequent occurrence. The ejections sometimes take place without effort or uneasiness, but occasionally very forcibly, with simultaneous vomiting, spasms, and sinking of the pulse. The violent action of the alimentary canal is not of long continuance, the powers of the system not being able to support it: hence the vomiting and purging cease some hours before death; but, in some cases, a discharge of serum takes place from the rectum, on any movement of the body, until the fatal termination. In most cases, some time after the commencement of this affection of the intestinal tube, but, in others, previously to it, spasmodic contractions of the muscles of the fingers and toes, are felt; and these affections gradually extend along the limbs to the trunk. The spasms are imperfectly clonic, or convulsive, with unfrequent relaxations;

they are attended with great pain, and leave, for some days afterwards, a degree of stiffness in the muscles. The pulse is, from the first, small, weak, and indurated; and, after a certain interval, but especially on the accession of spasms, or severe vomiting, it sinks suddenly, so as to be speedily imperceptible in the external parts. The length of time a person will live in this pulseless state, is remarkable. In a case related by Dr. Kellett, the pulse was gone within three hours from the attack, yet the man lived twenty-two hours in that state. On the cessation of spasms and vomiting, and sometimes apparently from the exhibition of remedies, the pulse will return in the extremities for a short time, and again cease. The skin is cold from the commencement of the disease, and, as it advances, becomes gradually colder, and is covered with profuse sweat, or a clammy moisture. The state of its circulation, and its insensibility, is sometimes strongly denoted by the following circumstances: Leeches will not draw blood from it; blisters, and other vesicatories, will not act; and even the mineral acids, and boiling water, produce no effect; and some patients are not even sensible of their application. In Europeans, the color of the surface is often livid; the lips and nails present a blue tint; and the skin of the feet and hands becomes corrugated, and exhibits a sodden appearance, as after long immersion in hot water. With these symptoms co-exist violent pain of the intestines, with a sensation of writhing and twisting there; heartburn, which the sufferer compares to a fire consuming his entrails; excessive thirst; anxiety, with inexpressible uneasiness about the præcordia; hiccough; jactitation; and, notwithstanding the actual coldness of the surface, and even of internal parts which are accessible to the touch, (the tongue, for instance,) a sense of heat which impels the patient incessantly to throw off the bed-clothes. The breathing is much affected, being performed either more slowly than usual, (sometimes, for instance, in the advanced stage, only at the rate of seven respirations in a minute,) or the inspirations are short and sudden, with violent pain from spasm of the diaphragm; the voice being feeble, hollow,

hoarse, and interrupted. The eyes are sunk in their orbits; the corneal fluid, the conjunctivæ, frequently suffused with blood; the features collapsed; and the whole countenance wears a cadaverous aspect. The secretions (those of the skin and intestines excepted) are generally suspended. The functions of the mind are undisturbed, almost to the very last moment of existence. The approach of recovery is denoted by the rising of the pulse, return of heat to the surface, inclination to natural sleep, diminution or cessation of vomiting, purging, and spasms; and, after an interval, the reappearance of bilious stools, urine, and saliva.

Regarding the preceding as a picture of the general type of a disease rather variable in its character, we shall proceed to relate the more striking deviations from the ordinary forms which were observed in India. Instead of an exceedingly depressed state, there was a marked excitement, with a hot, dry skin, and, in several instances, a pulse of considerable force, throughout a great part of the course of the disease. This, in some cases, arose from the early application of stimulants; but in others it appeared to be an essential part of the disorder. These cases yielded most certainly and readily to treatment; and hence many of them have been subdued, without the occurrence of sinking or debility. It was at first a matter of doubt, whether this description of disorder really belonged to the epidemic; but that it did so, was placed beyond all question, by some of the more prostrated cases degenerating into the ordinary low form. The most fatal variety of the disease, was denoted by the slowness of commotion in the system. There was no vomiting; hardly any purging; perhaps there were only one or two stools, with no perceptible spasm; no pain of any kind; a mortal coldness, with a check of circulation from the beginning; and the patient died without a struggle, within three or four hours. Several instances were heard of, at Hoobly and other places, of natives being struck with the disease while walking in the open air, and who, having fallen down, *retched* a little, complained of vertigo, deafness and blindness, and expired in a few minutes.

Mr. Scott informs us, that this most deadly form of the disease frequently manifested itself in local epidemic visitations, which were often observed in India—all the cases occurring at the same time in a given district, partaking of the same peculiarity of character.

The collapsed form of disease, first described, is that which has been most frequently observed. In fatal cases, its duration varies from four to eight hours; while in those which terminate favorably, (a result often apparently due to early medical assistance,) the patient may be restored to perfect convalescence, in a period ranging between twenty-four and forty-eight hours. But, in many cases, considerable disturbance of the system intervenes between the period of collapse and restoration to health, or this disturbance may itself cause death. The Indian reporters mention two forms of this disorder. In the one, with some excitement of the system, the bowels continue to discharge, for many days, first brown and watery, then dark, black, pitchy stools, sometimes with blood, and peculiar pain in the bowels, particularly in the rectum. The other, a distinct febrile form, we shall describe in the language of the Bengal Report:—"The fever, which almost invariably attends this second stage of the disease, (in Europeans,) partook much of the nature of the common bilious attacks of these latitudes. There was a hot, dry skin, with a foul, deeply furred tongue, parched mouth, thirst, sick stomach, restlessness, watchfulness, and quick, variable pulse, sometimes with delirium and stupor, and at others, marked affections of the brain. Generally, when the disorder proved fatal in this stage, the tongue, from being cream colored, became brown, and sometimes black, hard, and more deeply furred; the teeth and lips were covered with sordes; the state of the skin varied, chills alternating with heats; the pulse became extremely quick, weak, and tremulous; hiccough, catching of the breath, great restlessness, and deep moaning, succeeded; and the patient soon sunk, incoherent and insensible, under the debilitating effects of low, nervous fever, and frequent, dark, tarry, alvine discharges." A consecutive

fever, similar to this, we learn from Doctors Russell and Barry, is of more frequent occurrence in Russia than in India. The following description we owe to these gentlemen:—"After the blue, cold period has lasted from twelve, twenty-four, seldom to forty-eight hours, or upwards, the pulse and external heat begin gradually to return; headache is complained of, with noise in the ears; the tongue becomes more loaded, redder at the tip and edges, and also drier. High colored urine is passed, with pain, and in small quantities; the pupil is often dilated; soreness is felt, on pressure, over the liver, stomach and belly. In short, the patient is laboring under a continual fever, not to be distinguished from ordinary fever. A profuse perspiration may come on from the second or third day, and leave the sufferer convalescent; but much more frequently, the quickness of the pulse and heat of the skin continue; the tongue becomes brown and parched; the eyes are suffused and drowsy; there is a dull flush, with stupor and heaviness, about the countenance, much resembling typhus; dark sordes collect about the lips and teeth; sometimes the patient is pale, squalid, and low, with pulse and heat below natural; but with the typhus stupor, delirium supervenes, and death takes place from the fourth to the eighth day, or even later, in the very individual, too, whom the most assiduous attention had barely saved in the first or cold stage. To give a notion of the importance and danger of cholera fever, a most intelligent physician, Doctor Reimer, informs us, that of twenty cases treated under his own eyes, who fell victims to the disease, seven died in the cold stage, and thirteen in the consecutive fever."

The same gentlemen state, as the result of their observations, that the following are the points of difference between the European epidemic and that of India:—"First, the evacuations, both upwards and downwards, seem to have been much more profuse and ungovernable in the India than in the present cholera, though the character of the evacuations are exactly the same. Secondly, restoration to health from the cold stage, without passing through consecutive fever of

any kind, was by far more frequent in India than in Petersburg; nor did the consecutive fever then assume a typhoid type. Thirdly, the proportion of deaths in the cold stage, compared with those in the hot, was far greater in India according to Doctor Russel's experience, than in Petersburg. Fourthly, the number of medical men and hospital attendants attacked with cholera during the present epidemic, in proportion to the whole employed, and to other classes in society, has been beyond all comparison greater in Petersburg than in India, under similar circumstances."

Doctor Keir of Moscow, gives the following description of the consecutive, or secondary morbid state:—"A second ordeal now begins, sometimes as severe, and frequently not less fatal, though more slowly so, than the first: this is probably the effect of morbid changes, which have been induced during the first stages of the disease. The appearance of the complaint is now entirely changed, insomuch that one who had not seen the patient during the first period, or been told of the symptoms, could not possibly know he was suffering from the epidemic. I have observed the disease in this, its usual period, to assume four forms: the first, an inflammatory, or rather sub-inflammatory state of the stomach and bowels, most frequently the latter, sometimes conjoined; the second, inflammatory irritation of the lungs, with pain in the chest, cough, viscid expectoration, and fever, approaching as a critical metastasis of the disease; the third, bilious or bilio-nervous fever, with suppuration of the parotid glands, in one case, with axillary suppurating bubo, towards the end of the fever, an inflammatory irritation of the lungs took place, ending in vomica; and the fourth, a congestive sub-inflammatory state of the brain, and spinal cord. This last, as was natural to expect, from the nature and seat of the affection, proved by far the most dangerous and most frequent fatal form of the second period; it appears generally to supervene after the purging, vomiting, and cramps had been relieved, and the external heat in some degree restored; the patient complained of pain in the back, between the shoulder blades, or in some

other part of the spine, sometimes along the whole tract; he appeared sleepy to such a degree, that I was disposed to attribute this state, in part at least, to the effect of the opium given in the first period. But I was soon convinced that the cause of this symptom, and of others strongly characteristic of this form of the disease, namely, the filling of the vessels of the sclerotica with red blood, was a congestive sub-inflammatory state of the brain, and of the spinal cord. This striking symptom at first began to show itself in the inferior part of the globe of the eyes; it gradually increased, and little by little, reached the upper part, while the eyes turned upward, exposing the lower part gorged with blood. This state of the patient generally ended in a complete coma, and proved fatal in a few hours afterwards."

Besides the various and appalling symptoms, which indicate general derangement of the action of the solids, there are appearances in the blood, drawn during the collapsed stage, showing that the fluids feel the influence of this formidable disease. These appearances are very uniformly expressed by the terms *dark, black, or tarry*, in regard to color, and by *thick, ropy, syrupy, or semi-coagulated*, in respect to consistence.

This change in the condition of the circulating fluids is fully proved to be in the ratio of the duration of the disease; the blood, at the commencement, seeming to be nearly or altogether natural, and more or less rapidly assuming a morbid state, as the malady advances. This condition was less conspicuous in cases of cholera ushered in by symptoms of excitement, than where the symptoms of excitement had occurred early; and in certain rare cases it was not observable at all, and the blood flowed readily from the vein; but the reverse was the fact, both with respect to its condition and manner of flowing from the arm, in an immense majority of instances. In general, after a certain quantity of dark, thick blood had been drawn, its color became lighter, its consistence less thick, and the circulation revived, such appearances always affording grounds for a proportionably favorable prog-

nosis. There is some discrepancy in the accounts transmitted to us, of the mode in which this diseased blood coagulates. In some instances, we learn, the coagulation is rapid, whilst in others it is slow and imperfect. Reports are unanimous in declaring it deficient in summer, and destitute of the buffy coat. The latter is occasionally observed in cases attended with reaction, in which the blood is not black and thick. The discharges from patients suffering under this disease, were subject to experiment by Doctor Christie. The secretion consists of two substances, the one a transparant serous fluid, the other an opaque white coagulum; the former perfectly soluble in cold water, the latter quite insoluble. These matters being submitted to the reaction, the fluid part was found to be pure serum, and the coagulated portion fibrin. The secretion, threfore, as the author remarks, has a composition similar to that of blood deprived of its coloring matter; but the serum is in much larger proportion than the fibrin.

Character of the Epidemic, as it appeared in Sunderland in 1831.—Thus far, (says the English writer,) our account of this formidable malady has been derived from the very valuable mass of information, with which we have been favored by our medical brethren in India, and the many intelligent men who have witnessed its ravages on the continent of Europe. Circumstances having brought it under our own observation, we shall endeavor to convey succinctly to the reader, the results of our experience, prefaced by a few reflections on the character and designation of the disease, which this experience has suggested to us. Were we to attempt a definition of epidemic cholera, the following, according to our experience, would comprise its distinctive symptoms. After watery diarrhea, or other slight indispositions, ensue vomiting and purging of a white colorless fluid, violent cramps, great prostration, and collapse.

Note.—By *collapse* in this definition, is meant a feebleness or almost an arrest of the circulation; the death-like appearance, the coldness which may in other diseases be observed after they have existed some time, and as the powers of life

are passing away; but which occur in what we shall call the cold or choleric stage of the epidemic, in a short time after its commencement, as though they formed an essential part of it. The degree and early accession of this collapse, and the white discharge, are the only distinctive marks that we are aware of, between this stage of the epidemic and the ordinary cholera, the last occurring simultaneously with the vomiting and cramps, or shortly after them. Should the patient survive the last train of symptoms, a state of excitement and fever supervenes. We can convey a correct idea of the disease, only by dividing it into three stages, the *incipient*, the *cold* or *choleric*, and the *febrile*: the division accords with the character of the disease.

1st. *Symptoms of the Incipient Stage.*—In an immense majority of instances, diarrhea has been the prominent symptom of this stage. Languor and lassitude, occasionally nausea and vertigo, co-existed with the disorder of the bowels, and sometimes certain of these symptoms may have appeared without it; but its occurrence has been so common, that we have treated few cases in which it has not preceded the more formidable symptoms. On examining the discharges, if we have an opportunity of doing so shortly after the occurrence of the diarrhea, they will be observed to be fecal and bilious; but we shall find that they subsequently bear the serous character of those which occur after the choleric stage is fully found: they are passed copiously, and without much griping; the feeling of debility which attends them is great, and this diarrhea is so exhausting, that we have met with patients, especially those advanced in life, in whom a considerable degree of collapse had occurred, with a feeble pulse, scarcely exceeding fifty, before the accession of vomiting and cramps. The natural tendency of this purging is, we believe, to pass into the choleric stage; but transition has frequently occurred shortly after some dietetic error, either as to quantity or quality of food, or after exposure to cold. The commencement of the purging has sometimes preceded, by several days, the accession of the choleric stage, and occasionally only by

eight or ten hours; but forty-eight hours has been its mean duration, calculated for a great number of instances. We have dwelt more on this incipient stage, from a conviction, the result of considerable observation of the disease, that subsequent symptoms might often be prevented, and life preserved, by early and proper treatment of the diarrhea.

2d. *Symptoms of the Cold, or Choleric Stage.*—Our description will be more intelligible, if we divide into two periods this very important stage, which has, in truth, given its name to the disease, and, by its fearful symptoms, has engrossed such general attention, that the fact of its being but part of a series of changes, has been too often lost sight of.

First Period.—The time of invasion has been, as in India, in a great majority of instances, from two to four o'clock in the morning. The patient is attacked with uneasiness of the stomach, occasionally amounting to pain, to which speedily succeeds vomiting of the characteristic fluid so frequently described; and, if diarrhea have preceded, which, in almost all the cases we have noticed, has been the case, a purging of the same fluid, the fecal contents of the canal having been previously expelled. The vomiting is rarely full and effectual, consisting rather of unsatisfactory retchings, than of a full discharge of the contents of the stomach; but sometimes these contents are expelled forcibly, as if squirted from a syringe. The discharges from the bowels are occasionally scanty, but much more frequently they take place copiously and forcibly. Simultaneously with the vomiting, or not unfrequently before this symptom has occurred, cramps take place; and the agony that attends them constitutes a great share of the sufferings of the patient, who incessantly entreats that friction may be applied to the parts they affect. However soon our visit may be made, the pulse will generally be found to be feeble and frequent; the skin, in point of heat, below the healthy standard, the countenance shrunk, and, if not livid, pallid; and the respiration hurried, if not checked, as it frequently is, by spasms of the diaphragm and intercostal muscles. The circulation sinks remarkably, and sometimes

appears momentarily to cease, on every occasion of severe vomiting or spasm. *Second Period.*—The mean duration of the preceding varies from about eight, to twelve hours; the vomiting and spasms then either totally subside, or recur at much longer intervals, and the patient sinks into a state of extreme collapse. The pulse at the wrist is scarcely, or not at all perceptible; the surface is universally moist and cold, excepting as heat is imparted from without, for the instant the hands or other parts are exposed, they become of an icy coldness; blueness, if it exist at all,—but it is by no means a uniform symptom,—is now conspicuous on the face and hands, which last have the shrunk and sodden appearance so generally described; the tongue is moist, and, if not actually cold, at least cooler than natural; and the voice is of that mingled huskiness and feebleness which strikes the ear so peculiarly. In this condition there is little suffering, excepting from the sense of weight and oppression at the præcordia, of which the patient complains much; for even should spasms occur, they are now too feeble to excite much pain; the respiration is slow; the conjunctivæ, in their inferior hemisphere, are frequently injected with dark colored blood; and the insensibility of the stomach is so great, that the most powerful stimulants may be given and retained without the organ being apparently more sensible of their presence than if it were a lifeless pouch. The urine is suspended throughout the whole course of a choleric stage so intense as we have described it.

3d. *Symptoms of the Febrile Stage.*—The preceding stage, in most cases, makes a very gradual transition into the present one. After the patient has remained in a collapsed state for a considerable time, some degree of warmth will be found returning to the surface, which, for a variable period, perhaps for a couple of days, has been almost of an icy coldness; and the pulse is proportionally developed, being early perceptible at the wrist, generally about eighty, and soft; the vessels of the conjunctivæ gradually become distended with blood; or if those of the inferior hemisphere have been so during the stage of the collapse, the distention now diffuses

itself over the whole membrane; the patient, who, on his attention being roused, is perfectly sensible, complains of severe pain in the head, of a sense of giddiness, and that the light distresses his eyes. The tongue, in this early stage, is clean and moist; the bowels are readily acted upon by medicine, and the discharges are feculent, and, though somewhat clayey, contain a proportion of bile; but the urinary secretion is sometimes either not restored, or is considerably deficient for a day or two after the establishment of fever. In the progress of the fever, the tongue becomes black, and sordes accumulate about the teeth; the eyes become more and more injected; the intellect more and more torpid, though still the patient can be roused to answer questions, and make a sensible remark on his condition; but the instant the conversation ceases, the eyes are turned up in the orbit, exposing through their half-closed lids the red sclerotica, and the patient is in a state of profound stupor; urinary secretions are now established, and the urine, which at first was dark colored and cloudy, is now limpid and pale; the alvine discharges are darker colored than at first; and throughout the disease there is a deficiency of vascular action and of temperature, which we have not observed to the same extent in typhus, or any other fever. However flushed the countenance may appear—and it is often very considerably so—the temperature of the surface is below the healthy standard; and we have not often found the pulse above ninety. *Typhoid* is not an inappropriate designation of the condition we have endeavored to describe; but we think that an individual who has once watched the progress of such a case, would run no risk of confounding it, on a future occasion, with typhus;—the deficiency of vascular and calorific power; the peculiar vascularity of the eye; the absence of subsultus and muttering delirium, (for though delirium occasionally occurs during night, the condition of the intellect throughout is much more one of torpor than of irregularity,) would be marked, by which he would discriminate the two affections. The duration of such a febrile stage as we have described, is from a

week to ten days. Its termination has been, in a considerable majority of instances which have fallen under our observation, fatal. The brain appeared to us to be the organ mainly affected; and by this view our treatment has been chiefly guided, though, at the same time, the condition of the intestinal canal has not been neglected. In another form, and one which supervenes on a minor degree of collapse than the preceding, the symptoms do not differ from those described above, excepting that there are indications of greater excitement—more warmth of surface or more force and frequency of pulse. Depletion could be more freely practiced, and it was altogether a more tractable form of disease. The mildest and most tractable type of the febrile stage is denoted by symptoms of general but moderate excitement, with epigastric pain or pressure, headache and giddiness; the tongue being at the same time either clean, with a disposition to become dry and glazed, or slightly white and furred; the skin warm; the pulse free and forcible; the urine highly colored, and the thirst considerable. In such a case there is little or no confusion of thought or delirium, and the eyes are not injected. We need scarcely remark that examples of this mild and tractable type of the febrile stage occurred after a choleric stage, in which the symptoms of collapse had been inconsiderable, in which the urinary secretion had not been suspended, or which had not always been attended with vomiting—a symptom occasionally wanting in slight cases. In the preceding sketch of the febrile stage, it will be understood that, as in the case of the choleric stage, we have not attempted to describe all the various shades of intensity in which the disease manifests itself. The extremes only are given. To describe all the intermediate degrees would have swelled the article beyond reasonable limits, and would have proved a burden to the memory of the reader.

4th. *Prognosis*.—The danger of the disease is, in all cases, to be estimated from the degree of collapse attending the cold or choleric stage. In India, it was remarked that the cases in which spasms and vomiting were the most violent, were by

no means fraught with the most peril; and what we have seen of the disease enables us to bear testimony to the accuracy of the remark; for when we have heard the attendants exulting in the cessation of the spasms, and the facility with which the stomach retained medicine or food, and have felt, at the same time, the pulseless wrists, and the cold and clammy hand, we have seen, in these apparently favorable omens, only the natural progress of the disease from a bad condition to one still worse. Whether we are to dread a fatal result in the cold stage, the intensity and duration of the collapse in the former of these stages are the measure of the danger; for if the patient die in this stage, he dies of collapse; and if he survive it, and pass into the state of fever, the character of this fever is malignant and dangerous, in proportion to the same collapse.

5th. *Diagnosis*.—From ordinary cholera the cold stage is to be distinguished, as it appears to us, by the peculiarity of the discharges, which has been sufficiently dwelt upon, and by the degree of collapse and its early occurrence. Cases have been adverted to, which, at least in the choleric stage, could not be discriminated from ordinary cholera, excepting perhaps, from their taking place at a season of the year when ordinary cholera is never observed; but it may be remarked, that no one would infer the existence of the epidemic from such cases, though he might be disposed to acknowledge that they belonged to it, if cases less equivocal were simultaneously prevalent and especially if they originated under circumstances mentioned in the preceding pages.

We have been favored, by a gentleman of high character and attainments, with a report of two cases, regarded at the time they occurred, as aggravated cases of the ordinary disease: both took place in the interior, under circumstances in which there was not the slightest ground to suspect contagion, and previously to there being any suspicion of the existence of the epidemic in this country. In one, the symptoms bore, unquestionably, a considerable resemblance to the choleric stage of the epidemic; but no fever supervened. The symp-

toms of the other shall be given in the words of the writer: "The total, or nearly total suspension of the secretion by the kidneys; the watery vomiting and stools; the severity of the spasms; the shrunk and corrugated state of the skin on the hands and feet, and the blueness of his nails, persuaded me that his disease was of the spasmodic type. In him, moreover, a slow fever succeeded the original symptoms, and long retarded his recovery." This case occurred in the beginning of July, 1831. There is a certain form of the febrile stage—that which supervenes on a choleric stage, attended with extreme collapse—which the deficiency of the temperature and the circulation, the congested state of the conjunctiva from the very commencement of the fever, and the peculiar torpor of the intellect, would, as it appears to us, enable the observer to discriminate from any fever which we are in the habit of witnessing in this country, provided he saw the patient early and watched him throughout; but in the majority of instances, the diagnosis can only be correctly drawn by coupling the preceding history of the case with the existence of fever and with its character.

6th. *Appearances presented on Dissection.*—The external appearance of the body closely resembles that which has been noticed during life. The solids are shrunk, the surface is livid, the skin of the hands and feet is corrugated, the nails are blue, and the fingers are often rigidly contracted. There is no putrefaction, nor any characteristic fetor from the abdominal cavity. In the *head* are found marks of congestion, and occasionally even of extravasation. These occurrences were found very common by Doctor Davy, in dissections in Ceylon; and Doctor Keir, of Moscow, discovered in the Russian form of the disease, the blood vessels of the brain and its membranes more or less turgid with blood, particularly towards the base, with a fluid effused into its convolutions, and more or less of serum in the lateral ventricles. In the *thorax*, the pleura and pericardium are found, as the serous membranes generally are in this disease, perfectly healthy, with the exception, occasionally, of an unusual dryness. The

lungs are sometimes in a natural state, but more frequently gorged with dark colored blood, so as to resemble liver or spleen; or they have been found collapsed on each side of the spine, leaving the thorax nearly empty. This latter appearance Doctor Pollock explained by supposing gas to be extricated within the cavity of the pleura; but the thorax having been opened in such cases under water, and no air having been found, Mr. Scott is disposed to ascribe it to a contractile power exerted by the viscus, sufficient to overcome the atmospheric pressure. Both sides of the heart are in general distended with dark blood, and the bronchia are frequently filled with mucus. In the *abdomen*, the vessels of the liver are much congested, and pour forth blood copiously when incisions are made into that organ. But this congestion is not uniformly found; the gall bladder is turgid with black bile, and its ducts are sometimes constricted and impermeable, though occasionally in an opposite state. The peritoneum is often quite healthy, but the portion investing the alimentary canal has frequently an inflamed appearance, from the exceedingly loaded state of its blood-vessels. This congestion is sometimes so great as to give the appearance of gangrene; but by drawing the finger over the surface, innumerable small veins may be found running in every direction, as in a preparation nicely injected, and the texture is found to be resisting and firm. This portion of the peritoneum, however, occasionally bears marks of actual inflammation, especially if the patient has lingered long before death. It then presents a thickened appearance externally, and its color varies from a pale vermilion, through all the deeper shades, to a dark purple hue; the former being chiefly remarkable on the surface of the duodenum and jejunum, the latter on the ileum, where it terminates in the cœcum. At other times, the whole alimentary tube, instead of this congested state, presents a blanched appearance, both internally and externally. The omentum is sometimes healthy; at others, it presents the same appearance of extreme vascularity as the peritoneal surface of the alimentary canal. The following appearances are

discovered on laying open the stomach and intestinal tube: A white, opaque, and viscid substance is found adhering to the surface of some portions of the mucous membrane; and in many cases, it is so abundant in the intestines as completely to fill parts of them, of a greater or less extent. The stomach, and portions of the intestines, are filled with a transparent or turbid serous fluid, and frequently the viscid matter mentioned above is found intimately mixed with the serous fluid, or floating in it in the form of flakes. The mucus membrane, except when inflamed, which it not unfrequently is, has an unnatural whiteness, is often soft and pulpy, and in general—especially in the stomach and small intestines—can be easily detached by scraping, in the form of thick pulp, from the subjacent coat. These appearances are sometimes more or less partial; but some of them are generally found throughout the whole extent of the tube. They extend, in some cases, to the mucous membrane of the bladder and ureters, and have been found, in some instances, in that lining the bronchia. The dissections in Sunderland have generally furnished results corresponding with those obtained elsewhere. In concluding this rather unsatisfactory portion of our subject, we cannot refrain from expressing a conviction, that the symptoms during life throw much more light on the nature of the disease, and its appropriate treatment, than appearances after death.

7th. *Nature of the Disease.*—Many writers have displayed much ingenuity in attempting to trace all the phenomena of the choleric stage, the stage which has been the principal subject of investigation. But there has been but little accordance among medical reasoners, as to the part of the body in which the phenomena of the disease are presumed to originate; for the nervous system generally, the ganglionic exclusively, the blood itself, and the lining of the digestive canal, have each been equally unable to sustain their cause. The diversity of these views, is a proof of the intricacy of the subject; and probably, also, since they have all proceeded from observing and ingenious men, are evidence of the variable nature of the disease; each reasoner being, perhaps, influenced by that

portion of the general phenomena of the epidemic, which predominated in the cases it was his lot most frequently to witness. The partial nature, too, may be in a considerable degree ascribed to the unfortunate influence on medical reasoners of the expression, *proximate cause*, as a substitute for the more comprehensive term, *essence*, or *nature of the disease*. Even those who affect to use it as an equivalent term for *nature of the disease*, are yet insensibly influenced by the words they employ. Amidst the crowd of phenomena presented to their notice in certain maladies, they often assume, on very insufficient grounds, that some one fact is the original of all others; and this they invest with the title of *proximate cause*. If the facts related respecting epidemic cholera are compared with the explanations offered of them, it will be found that each medical reasoner has attributed the commencement of the phenomena of the disease to an affection of some part of the frame; which affection unquestionably exists, in a very great number of instances, but neither with that uniformity, nor with that priority of time, which will warrant us in concluding that it was the cause of all other symptoms. It seems a rational supposition, that the remote cause of a disease may act, in some instances, first on one, in others on another part of the system, from some local weakness, or peculiarity of individual constitution, or from some specialty in the mode of application of the cause; and yet that the disease shall retain, in each case, such a resemblance to a common type, as shall prove its identity. It is likewise supposable, that the remote cause may make a simultaneous attack on more than one organ, or part of the system.

No one writer has been able to ascertain the proximate cause of cholera, either by inferences drawn from the symptoms, or from appearances after death. It is gratifying to know that some light has been thrown on the subject, by which favorable practical results are obtained. That the nervous system generally, and the ganglionic and spinal nerves, and the spinal medula itself, are affected, is manifest from many symptoms; but whether this affection arises from a

direct impression of the remote cause of the disease on these organs, or from irritation propagated from the alimentary canal, along the ganglionic nerves to the spine, we are ignorant. Is the dark appearance of the blood to be explained by the feebleness of the action of the right ventricle, as a consequence of which little blood is transmitted through the lungs, and exposed to the influence of the air? According to this view, which is suggested with diffidence, the imperfection of the respiratory process, will arise from the same cause as in congenital malformation of the heart, such as the persistence after birth, of the foramen ovale, or the aorta arising from both ventricles, in which a very small proportion of the whole mass of blood is oxidized. This hypothesis explains readily the dark appearance of the blood, its accumulation in the great veins of the viscera, the coldness and lividity of the skin, and the imperfection of the respiratory process, which has been so ably illustrated by Doctor Davy. This gentleman was the first to show that the air expired by patients in the choleric stage, is colder, and contains less than the usual portion of the carbonic acid; and that this is the case, when the breathing is full, free, and rapid. The thickened consistence of the blood receives a ready explanation, from the loss of its serous part, by the abundant discharge from the inner intestinal surface. There are two morbid conditions of the lining of the digestive canal. In one it is in a manifest state of inflammation; in the other it is white and pulpy, and easily detached from the subjacent coat. The affection of the alimentary canal is essential and primary, if any part of the disease is so; and it were vain to attempt to trace it to a morbid condition of any other organ or system of organs. The general suspension of secretion, which is complete only when the collapse is extreme, appears to result from the disorder of those systems, the nervous and vascular, on which this important function depends. That the whole series of the phenomena results from the action of a morbid poison on the body, there can be no doubt; but, as in the case of fever, we are yet ignorant of the precise nature

of the primary change effected by it in various organs or systems; and it is to be feared that, till more accurate ideas are attained, respecting the pathology of fever in general, this ignorance will remain. In the febrile stages, there are by no means, equivocal indications of inflammation of the brain, and occasionally of other organs, the analogy to fevers in general, being in this respect preserved. Many cases reported from abroad, lead to the opinion that the nervous system is primarily affected.

8th. *Proportionate Mortality*.—The mortality during the early prevalence of the epidemic in India, in 1817 and 1818, was very great; but, either from the abatement of the intensity of the disease, or from the improvement of the treatment by our medical men, or, as is most probable, from the co-operation of both these circumstances, it was subsequently very much reduced. There is no disease in which unassisted nature seems more powerless than in this. We learn from the medical report at Bombay, that there is reason to believe that, of 1294 cases which received no medical assistance, every individual perished. From this appalling statement, it is gratifying to humanity to turn to the following records. According to the documents collected by the medical board at Madras, the number of deaths caused by it in the army of that presidency, during 1818, was 4430, of which 695 occurred among the European troops, and 3735 among the Sepoys. The number attacked was 19,494—namely, 3664 Europeans, and 15,830 natives. The average strength of the army, during the period included in the report, being 10,112 Europeans, and 73,254 natives, it follows that, in five years, twenty-three and a third per cent. of the troops were attacked, and that of these twenty-two and three-fourths per cent. were carried off, or five and one-third per cent of the whole force of the army. We hear, in different situations, of rates of mortality infinitely lower than this. In some stations, not more than one in a hundred proved mortal, of those who were early succored.

In our observations on the treatment, we shall follow the natural subdivisions adopted in describing the disease.

I. TREATMENT OF THE INCIPIENT STAGES.

We have adverted to two forms which this stage assumes. In the one there is some general uneasiness, nausea, and vertigo; in the other these affections may exist, with diarrhea, but the latter is frequently present, without the former being discernable. The first of these forms—in which it may be remarked, that medical aid is rarely applied to—requires that the stomach should be unloaded by an emetic, and a table-spoonful of mustard constitutes a very efficient one. A few ounces of blood should be drawn from a vein; a laxative of calomel and rhubarb administered; and the patient restricted to a diluent diet, and kept within doors and warm. The treatment of the diarrheal form, to which, circumstances witnessed by us lead us to attach considerable importance, must be noticed more at length. It was mentioned that, in this diarrheal form of the incipient stage, the evacuations are at first found to be fecal and bilious; but, at the time medical aid is summoned, they have generally assumed the serous character which they have in the choleric stage. A state of the system resembling, in some degree, collapse, it was observed, coincided with this condition of the alvine discharges. In this state, it was found very advantageous to give a dose of calomel, combined with a proportion of opium and some aromatic, and in twelve or fourteen hours afterwards, a dose of castor oil. On first visiting such a patient, a large blister was generally applied to the abdomen, in the cases under our care; warmth was enjoined—indeed, when compliance with our wishes could be enforced, the patient was confined to bed—and it was directed that the diet should be diluent. The subsequent treatment consists in the employment of smaller doses of calomel and opium, for one or two successive nights, and a second dose of oleum vicini was sometimes administered. In certain localities, the writer has found the constitutional state accompanying this stage of the disease, to be one of marked excitement,

rather than of feebleness and collapse; and some points of the abdomen have been painful on pressure. In such cases, one general bleeding, or the very liberal application of leeches to the abdomen, has preceded the employment of other remedies. It should be remarked, however, that the choleric stage has supervened, as we have been informed, on diarrhea, which had been skillfully treated; but our inquiries have uniformly convinced us that, in such cases, medical aid had not been summoned till the diarrhea had existed sometime, and the subsequent stage was closely impending.

II. TREATMENT OF THE COLD OR CHOLERIC STAGE.

In order that we may be distinctly understood in our observations on the mode of conducting this very important stage, we must adhere to its subdivisions into two periods. The first period is certainly that in which alone our most powerful means of arresting morbid action, can be employed with a considerable prospect of success. It may be considered an axiom in medicine, that fevers, to be successfully must be *early* treated; and the rule has a powerful application to a disease so rapid in its course as that under consideration. But there are many obstacles to its being generally acted upon in a populous town; and one considerable obstacle, we apprehend, will every where be found in the self deception which seems to be inspired by the disease. We have met with persons to whom, from their peculiar situation, all the symptoms of this disease were as familiarly known as to medical men; yet, when they were attacked with it, they did not or would not recognize it; and one such individual actually walked out with the disease upon him, and failed to send for assistance till eight hours after its invasion, though it was so severe as to destroy him in twelve. So strong is this tendency to self-deception, regarding the nature of the disease, when the choleric stage actually occurs, that, wherever cholera prevails, strong appeals to the public should be made on the necessity of early treatment of this stage, as well as due care of that which generally precedes it.

The first remedy to be considered is blood-letting; and we shall endeavor to point out the circumstances, which, so far as our observation extends, indicate, and those which forbid its employment. Its safe employment should be early, not according to mere time only, but with respect to the rapidity of the disease; for one case may have made as considerable a progress towards actual collapse in two hours as another in ten; and we should regard a considerable degree of collapse indicated by feebleness or arrest of circulation, and perceptible in the intervals of pain and spasms, (for when these occur, the pulse often sinks instantly, though only a second before, it had been beating with considerable vigor,) as an imperative reason for abstaining from drawing blood. But if we find the temperature not below, or but a little below, the healthy standard, a pulse of tolerable force, and strong spasms at short intervals, provided collapse have not preceded this favorable condition, we should at once open a vein, and not lose an opportunity, which will never be restored, of probably preventing extreme collapse, and either its immediate fatality, or its more remote, but scarcely less fearful evils. But should this condition, with respect to circulation and temperature, have succeeded to collapse, either spontaneously or by the administration of remedies, our experience would dictate that blood-letting should be carefully abstained from, as we have seen great injury produced, under such circumstances, by its employment; cases having fallen under our notice in which the loss of three or four ounces of blood has destroyed the fruits of two or three hours assiduous labor. The difference in the effect of blood-letting on conditions apparently very analogous, but differing in the period, from the commencement of the attack at which they manifest themselves, cannot be too strongly impressed on the reader's attention. Perhaps the only difference in external character which can be discovered between the two states, will be the existence of spasms of considerable strength in the early period, whilst, in the more advanced, they have nearly, if not altogether, ceased; but in one case blood-letting breaks the morbid catenations, and pre-

vents collapse and congestion; in the other it lowers the vital energies which are freeing themselves from a state of oppression. But, again, in a more advanced stage, when the constitution is no longer balancing between collapse and fever, and the latter may be considered as established, bleeding is a suitable remedy, if the state of the circulation and the general condition of the patient render it admissible. Thus, then, there are three periods of the disease, at which according to our experience, blood-letting may be employed: occasionally in the incipient stage, as has already been stated, in the early part of the first period of the cold stage; and at the commencement of the feverish stage, under circumstances to be subsequently mentioned. We have been particular on this head, perhaps to prolixity, because we found great discrepancy in the testimony of various East Indian and continental authorities regarding it; and in the early part of our experience of the disease, the selection of the appropriate time for bleeding, and the circumstances which indicated or forbade it, constituted the great difficulty we had to encounter. The measure to be adopted next in succession to blood-letting, will depend on the condition of the patient. If, in a short time after bleeding, we find a circulation of tolerable force, without much tendency to general or partial deficiency of heat, and if, at the same time, there be a pain in the epigastrium increased on pressure, (a very common accompaniment of cases in which the tendency to collapse is least conspicuous,) a large blister or sinapism to the abdomen will be suitable remedies. Should the circulation, on the other hand, be feeble, with general or partial deficiency of warmth, we should endeavor to rouse the system by full vomiting; and powdered mustard is a very proper means for accomplishing this object. Half an ounce of this substance, suspended in half an ordinary tumbler of warm water, may be considered a medium dose, and one which, in a great majority of instances, will act promptly and powerfully; but, in a more advanced stage of the disease, when collapse has been extreme, a whole ounce has been required to produce the full effect. After full vom-

iting, sinapisms may be applied to the abdomen and along the spine; whilst the warmth of the patient is supported by bottles of hot water wrapped in flannel bags of hot oats, and other familiar methods of applying dry heat, directed to the extremities, or other points in which the temperature seems deficient. Friction of the parts affected with spasms will probably be required, and should be performed under the bed-clothes. The quantity of the liquid given at this period ought to depend on the condition of the patient; if, for instance, the tendency to collapse be considerable, a little weak brandy and water should be given at short intervals; but should the circulation be tolerably vigorous, and the temperature good, simple diluents, such as toast and water, constitute the most suitable beverage. Should the patient be in a state of considerable collapse, whether in consequence of neglect of the earlier stage, or occurring, (which will occasionally prove to be the case,) in spite of the most diligent attention to it, blood-letting should not form part of the remedial agents selected. In the sinking stage of the disease, various stimulating remedies have been recommended. Whatever stimulant medicine be employed, we would advise that calomel in doses of five or six grains, repeated at intervals of three or four hours, be given at the same time, with the view of aiding the restoration of secretions; and with the intention of at once rousing the system, and lessening the irritability of the stomach; and also that a large sinapism should be applied to the abdomen, and another along the course of the spine. The tobacco enema has been suggested by Mr. Baird of Newcastle, and, as he assures us, employed with considerable success. Weak brandy and water may be given occasionally during the collapse; and we have observed no injurious effect, in this or any stage of the disease, from the ordinary diluent taken in moderate doses.

III. TREATMENT OF THE EXCITED, OR FEBRILE STAGE.

This division of the subject will not require so lengthened a discussion as the preceding, which may be considered as

more exclusively belonging to this disease; for recognized principles, applicable to the treatment of pyrexia in general, must be our guides in treating this fever. The fever constituting this stage, be it in essence what it may, has inflammation accompanying it, of which the principal locations are the brain and lining of the digestive canal; and to the subduing of these, by such measures as the state of the system admits, our attention should be carefully directed. A form of fever has been described as supervening on an extreme and long-continued collapse in the cold stage, and in which it was mentioned that the vascular action was low and feeble, the temperature of the surface under the healthy standard, and the description of warmth very partial. A degree of irritability of the stomach, with occasional vomiting, is a very frequent accompaniment of such a case, for two or three days; and, under such circumstances, leeches, and subsequently a blister to the epigastrium, have been resorted to. Of internal remedies, calomel is the most to be relied on, from its effects on the secretions, particularly of the intestinal canal, and from its facilitating the laxatives which the state of the brain renders advisable to administer. Simultaneously with this, attention should be paid to keeping up the heat of the cold parts of the body, by bottles of hot water wrapped in flannel. Even when relieving the system by bleeding, stimulants may be required, to keep up the action. The more excited form admits of one general bleeding with advantage, the amount of blood to be drawn being regulated by the various circumstances which would govern in ordinary fever. Should the head, as it generally does, continue to be affected after blood-letting, leeches and cold applications should be resorted to, the former being repeated, if necessary, to such extent, and at such intervals, as the degree of headache, intellectual torpor, and vascular excitement, may seem to require. Laxative medicine should be administered; calomel at night, and castor oil in the morning. That kind of permanent fomentation, which is afforded by hot poultices on the abdomen, has been found beneficial. In most cases of high excitement, as well

as the lowest form of the disease, in which the collapse of the cold, seems prolonged through the febrile stage, it is advisable to counteract, by warmth, applied to the extremities and other points, that tendency to irregular distribution of blood, which forms so striking a feature of the disease.

As to the Proximate Cause, or Pathological Inception of Cholera.—On this subject, similar diversities of opinion prevail, among the physicians of this country, to those we have already noticed among the profession in other parts of the world. Some suppose the unknown poisonous influence to make its first morbid impression on the mucus membrane of the stomach and bowels; others, that the nervous texture, in general, or the ganglionic system, specially, is the first to feel its baleful operation; others, that a failure of the active powers of the heart and blood-vessels take the lead in this unmanageable train of marked actions; others, that the fluid they contain, becoming decomposed or deteriorated, occasions all the formidable symptoms of the disease; and lastly, there are those who believe that the proximate cause of cholera asphyxia consists in a simultaneous modification of all the organic powers and functions, the poison acting either directly on the properties of the several textures, or indirectly through the nervous system. Which of these speculations has the advantage, either in the number or respectability of those who entertain it, we are unable to determine.

Many of the agents adopted, as laid down in the foregoing article, for the treatment of cholera, are such as we would recommend, as accordant with our mode of treating this disease. But so far as *depletions, leeches, epispastics, and calomel*, are concerned, we are enabled, by the application of our remedies, to dispense with them. By giving action to the blood, we avoid the danger (a danger which is admitted) that sometimes attends blood-letting, and also the prostration of the patient, which is the necessary result of that practice. *Our* agents, which are intended to give action to the system generally, are more ready and certain in their operation, than calomel, and dispatch and certainty are objects of vital im-

portance in contending with a disease so swift as this. The fact that all our external remedies determine the disease to the surface of the body, more readily and more successfully than blistering, will recommend them in preference thereto. The powerful effects of a combination of concentrated stimulants, tonics, diaphoretics, and anti-spasmodics, of which our remedies are composed, and which enter every part of the body at the same time, in cases of cholera, need no argument to induce every reflecting man of science to give them a candid consideration, and we feel justified by experience, in saying, that we doubt not that, with as many as shall make a thorough, persevering trial of them, the continuance of their application in all cases of cholera, will be the certain consequence. Though the disease is of a character which is more terrific than any which has ever afflicted our race; has spread abroad desolation and alarm in their most direful forms; has frightened husbands from the bed of their dying companions, and from the terror created, has been a fruitful cause of producing attacks on the subjects of its alarm; though all such have been its sad consequences, and will so continue to be until it shall be known and believed that an antidote is discovered, which will arrest its march of death; it is our pleasure to state, with the fullest confidence, established from actual experience, *that our remedies are abundantly competent to arrest the disease, in all its forms.*

In many respects, we treat the cholera as we do congestive fever, though not entirely so. Let the patient be rubbed over the whole body (with the least possible delay) with our Fever Liniment; prepare plasters of the same, and bind them on the bowels, breast, wrists, and ankles, repeating the rubbing of the other portions of the body with the Liniment, and prepare hot bricks to lay at the feet and sides, to promote perspiration; administer an injection of our Pectoral Tincture, at the same time give an emetic of the same, in teaspoonful doses every five minutes, and if vomiting does not take place in fifteen minutes, double the dose; still continue the rubbing on of the Liniment: while this is going on, let

some one prepare a mustard poultice, to be placed over the plasters on the breast and bowels, which will accelerate the absorption of the Liniment: after vomiting, give tea-spoonful doses of the Diaphoretic Drops, and (apply the Liniment freely on the whole length of the spine, with much friction,) then the tincture of gum myrrh. If the stomach remain sick after vomiting freely, drink liberally of strong peppermint or spearmint tea. These measures, persevered in, will soon cause a reaction in the system; the spasms will subside, all the symptoms will be removed, and the patient's recovery will generally be as sudden as was his prostration. We have the evidence of a number of desperate cases having been suddenly overcome by some of these means, and not a single failure has come to our knowledge.

PLAGUE.

THIS is a disease characterized by a contagious typhus, entire prostration of strength, and by certain local symptoms, as buboes, carbuncles, livid spots, (*petechiæ*.) The latter are, in this connection, the peculiar characteristics of the plague, since the former also appear in other malignant diseases. In the beginning, the patient generally experiences great mental dejection, and corporal debility; slight chills, alternating with heats, which are afterwards succeeded by a burning heat within, and a heaviness about the head; then follows stupor; the eyes are glaring, glazed, or wild and sparkling; the face appears whitish and livid; and the patient is melancholy, morose and anxious, faint and delirious. In many cases nausea and vomiting occur. The thirst is unquenchable, the tongue is reddish or yellowish, the speech indistinct. In the progress of the disease, the face often becomes red, the perspiration quick and uneasy, and bilious, green, or bloody and black matter is vomited. The delirium often becomes mild; the urine is sometimes turbid, black, whitish, or bloody; and hemorrhages take place, when death does not immediately ensue. Buboes appear in the groins, the arm pits, the paro-

tids, and other places, with carbuncles, or small, yellowish black spots, over the whole body. The fear, anxiety, and despair, which seize the patient on the first appearance of the plague, increase the danger of the disease. Death, in many cases, takes place on the first day, and frequently in a few hours after the attack, but sometimes not till the second or third day. It is considered favorable if the buboes and carbuncles appear at the same time, are very numerous, and terminate in suppuration. They either terminate in suppuration, or become indurated, are healed or cut out.

In regard to the origin of the plague, and the manner in which it is communicated, very different opinions have been entertained, according to the state of medical science. In early times, when calamitous events, the causes of which were not understood, were attributed to spirits and demons, the plague was ascribed to their influence. At a later period, it was accounted for by changes in the air, poisonous vapors which descended from the atmosphere, or to clouds of insects which were received into the body, by inspiration, or in the food, or by absorption through the skin, and thus corrupted the blood. Physicians, according to the tendency of their theories, found the cause in the excess of sulphureous matter in the blood, or in its coagulation, or resolution, etc. Many have considered it as not contagious, but at present there is a very general conviction of its contagious character.

The plague is a specific disease, and can originate of itself only in certain countries. Hot weather, bad air and food, and filthiness, favor its production and propagation. The nature of the disease seems to exist in a diminution of vital energy, which may be so rapid and universal, that the component parts of the system, particularly the blood, lose their natural properties, and become corrupted, and life is destroyed before the nervous system is able to counteract the effects. When the progress of the disease is not so rapid, the vital energy which remains, is exhausted by febrile excitements, and local inflammation. Dissections have shown collections of coagulated or decomposed fluid, black blood, inflammations

of large portions of the skin, and carbuncles in great numbers. The buboes discharge an offensive matter, and extend far inward. The carbuncles, which precede the approach of death, and which contain mortified parts, also generally reach deeply inwards. When nature possesses sufficient vigor, the inflammations are on the skin, rather than in the interior. The buboes soon terminate in suppuration, and the carbuncles, when cut, discharge a less corrupt matter, and fall off. The fever is carried off by a violent sweat, the recovery is slow. When the disease is completely developed, it is contagious; to this is owing the terrible devastations which it causes.

There is but little doubt the plague appeared in the most ancient times, particularly where a numerous population was collected together in warm climates; but we must not consider every disease a plague, which has been called so by historians, as they often mean by the term nothing more than a malignant disorder, prevailing over a considerable extent of country. Among the most famous instances, is the plague described, in so masterly a manner, by Thucydides, which, in the third year of the Peloponnesian war, (430 B. C.) ravaged Athens, then besieged by the Spartans. A large number of the inhabitants of Attica had fled into the city; fear, anxiety, want or badness of provisions, and the corruption of the air, caused by the crowded state of the population, produced and propagated the plague in the city. Death generally ensued after the seventh or ninth day. The plague in Jerusalem (A. D. 72,) when it was besieged by the Romans, is described by Josephus. In Rome, the plague prevailed (A. D. 77) in the reign of Vespasian; of Marcus Aurelius (170,) when it raged over almost all Europe and Asia; of Commodus (189,) and particularly of Gallienus, (in 262,) when five thousand persons are said to have died daily in Rome. From that time, it continued occasionally to prevail in Italy, Greece, Asia, and Africa, and raged particularly in the populous cities, for instance in Constantinople, in the reign of Justinian, (in 544,) when one thousand grave diggers were said to have been insufficient for the interment of the dead. This plague con-

tinued its ravages for fifty years, with but short intervals. In 565, it appeared under the name of *pestis inguinana* in Treves, and in 588 at Marseilles. In the seventh century it appeared in Saxony. In 823 it prevailed all over Germany; and from 875 to 877, was particularly malignant in Saxony and Misnia, as was also the case in 964. In the eleventh century it broke out in Germany at least six times, mostly after or during the famine, and raged with so much violence it was believed that all mankind was doomed to be swept away by it. This unfortunate belief prevented the taking of effectual means to check it; and apathy in suffering was considered an act of piety. In some cases, however, the Jews were suspected of having poisoned the wells, as in our own time, the Hungarian peasantry suspected the nobility, when the cholera morbus swept away so many of the poorer classes. In fact, the ignorant of all ages have been inclined to ascribe general and far spreading diseases, whose causes are unknown or disbelieved in by them, to poisoned wells. Thus, the writer recollects, that when the ophthalmia broke out in the Prussian army in 1813, many believed that the French had poisoned the wells. Similar notions were entertained by many French soldiers, during the plague which swept them off in Egypt. In the twelfth century, the plague prevailed in Germany about twenty-five years. In the thirteenth century it was brought into Europe by the Crusaders. From 1347 to 1350, it traversed all Europe, and was then called the *black death*. Since that time it has never ravaged with so much violence. Boccaccio, in the introduction of his *Decameron*, has given a lively description of its physical and moral effects in Florence, in 1348. In the latter half of the fifteenth century, it raged in all Europe, and was accompanied by the most terrible sufferings. The historians of that time give the most horrible picture of distress. In the sixteenth century the plague again raged, and in 1563 was again introduced into England, by the return of an English army from the continent. At the same time the sweating sickness prevailed on the continent, which had been imported from England, to-

wards the close of the fifteenth century. It was called in Germany, the *English sweat*, and spread from the seaports, over Germany, France, the Netherlands, and Italy. Though some means were already taken against the plague, for instance, the establishment of lazarettos, yet it raged in Europe during the seventeenth century. In 1603, 1625, 1636, and 1665, it made great ravages in England. As the plague never ceases in the East, in Greece, and in European and Asiatic Turkey, it has continually been introduced by vessels, into the ports of Italy and France; and has also been propagated in Western Europe, through Hungary, Poland, and Transylvania. The quarantine rules have not, in general, been strictly observed, and as late as 1720, a Levantine vessel imported the plague into Marseilles, which soon spread all over Provence. In 1795 and 1796, it extended over the countries into the Turkish frontiers, but was checked by the skill of the physicians. It broke out in 1816, at Noia, a town in the Neapolitan territories.

The ancients endeavored to avert the plague by sacrifices, the christians by processions and prayers. The ancient physicians tried several modes of treatment; among them, sweating. The researches of modern physicians have given us a greater insight into the nature of disease, and of its remedies, than were possessed formerly, when want of courage was quite as fatal as want of knowledge. Precautions against contagion, and when that has once occurred, the speedy expulsion of the poison from the system, the diminution of the internal inflammation, the preservation of the vigor of the arterial blood, the strengthening of the nerves, the promotion of suppuration, the seasonable resolution of the carbuncles, are the main points of the treatment. Baldwin, English Consul General at Alexandria, recommended (1795) oil friction, which has been tried with success. Having observed that oil-porters were never attacked, he concluded that olive oil was a preservative against the plague, and his expectations were surpassed by the favorable results of his process. As soon as any symptom of the plague is discovered, the body of the patient is quickly

and vigorously rubbed with warm oil, and he is put to bed. This application is followed by a profuse sweat, which is promoted by alder tea. The friction is repeated, once or twice a day, until a violent sweat is produced. If there are buboes, they must be frequently rubbed with oil, until suppuration follows. Doctor Madden, in the work already quoted, gives the following as the results of his experience, both in regard to the nature of the disease, and the treatment of it: "I have given plague the name of *typhus gravissimus*. The symptoms, from the first, are, general debility, congestion about the heart, not depending upon inflammation, but upon the putrescent state of the circulation. It differs little from putrid typhus, except in its duration and eruptions. In every stage of plague, nature appears to be prostrate under the influence of the poisonous miasma; and when the patient sinks at last, it is from the want of force in the constitution to drive out the eruptions on the surface. The bubo recedes, or the carbuncle diminishes, or neither appear at all externally; but they have seized on the internal vital organs, and the immediate cause of death has been shown by dissection to have been carbuncles on the liver, lungs, spleen, or mesenteric glands: in short, it appears that the whole glandular system is the seat of the disease. I have seen all the different species of plague enumerated by Russel and the French authors, and I have no hesitation in pronouncing all these different species of plague to be the symptoms of one class only: and I assert there is but one indication to fulfill; namely, to assist nature to expel the poison, by strengthening the exhausted powers of the constitution, and enabling it to throw out the morbid matter. By what means is this to be done?—whether by emetics, by purgatives, by bleeding, by calomel, by mercurial unction, or by oil friction? There are none of these means I have not tried, and out of the first eleven patients I so treated, I lost nine. I had recourse to another mode of cure; strong stimulants, diffusible and permanent, I now tried. I commenced with wine and brandy, the first moment I saw the patient, whether the eye was suffused, the cheek flushed,

and the skin arid, or the low delirium set in, or not. I administered it in the following manner: The first dose was a tumbler of hot brandy and water, about one-third spirit. This sometimes was vomited, and again repeated; the second time it usually remained on the stomach, and in the course of two hours, it generally produced perspiration, even after James' powder had failed. Two or three hours after the first dose, another was administered, and the patient would feel less of the burning pain at the heart. If vomiting supervened, it was again repeated, and during the day it was now given every four or six hours, according to circumstances. The buboes commonly increased in size, and profuse sweating was often followed by petechiæ, or livid spots on the chest: when I saw this, I was always sure of my patient. The second day, I increased the strength of the dose; instead of one-third spirit, I gave one-half, every eight hours; no intoxication came on, but a lethargic drowsiness was common enough, continuing till the perspiration broke out, or carbuncles appeared externally. If on the third day the patient was decidedly better, I kept up the excitement by strong Cyprus wine, in frequent but small doses of two table-spoonsful every two hours; but if the bad symptoms were unabated, I continued to give the hot brandy and water, in increased quantities, till some decided change took place. This active treatment it was seldom necessary to pursue beyond the sixth day; indeed, in plague, if the patient live till the sixth day, he is likely to recover; but the third day is that which is most to be feared. The only other treatment, was once or twice opening the bowels with enemas, for purgatives by the mouth do no service, and sponging the body frequently with vinegar and water; the head was constantly kept soaked with towels dipped in vinegar, and the buboes were poulticed with very hot cataplasms, sufficiently hot to give pain, and they were allowed to burst spontaneously. With this treatment, at the rate of seventy-five per cent. recovered. In Candia, of nine patients, five patients recovered, and some of these were almost hopeless cases when I began to treat them.

Every thing in plague, of course, depends on early treatment; for, in a disease which commonly runs its course in three days, there is no time to be lost."

REMARK.—In tracing the history of the plague, it appears that for a long time physicians were unable to adopt a treatment which proved successful, or which in any manner arrested the disease; and not until 1795 was the *external application* of sweet oil discovered to be competent to accomplish that object. After this discovery, it was found that stimulants and diaphoretics would cause a free perspiration, and throw off the morbid matter; and by a persevering course of this treatment, vast numbers of those who were attacked with the plague were saved. It was further ascertained, that the great variety which physicians had supposed to exist in this disorder, and which had caused so much indecision in the treatment of it, was nothing more than the various symptoms of the same complaint. It is hardly possible to produce stronger evidence of the superiority of our system for the treatment of disease, than is here contained.

AGUE.

AGUE is a disorder belonging to the class of intermittent fevers. It may be followed by serious consequences, but, generally, it is more troublesome than dangerous, and is sometimes even considered salutary. According to the length of the *apyrexia*, or intermission between one febrile paroxysm and another, agues are denominated *quotidians*, *tertians* or *quartans*; which latter, are much the most obstinate, being generally attended with a greater degree of visceral obstruction than those, the attacks of which return at shorter intervals. The quartan ague is apt to terminate in dropsy. An ague paroxysm has been divided into the cold, the hot, and the sweating stages. The feeling of extreme cold, in the first stage, cannot be prevented by fire, or the heat of summer. Generally, after the sweating stages, in which there is a pro-

fuse exhalation from the pores of the skin with a flow of urine, depositing a copious sediment, of a lateritious or brick-dust appearance, the patient falls into a refreshing sleep, from which he awakes without any remains of indisposition, except a slight degree of languor and debility.

Agues occur chiefly in situations where there are shallow, stagnant waters. Hence their frequency in Holland, in the East and West Indies, in the flat, marshy parts of England, and the thinly settled parts of the United States, where they diminish with the clearing of the woods and the draining of the lands. The neighborhood of rivers or marshes, therefore, is carefully to be avoided by persons afflicted with agues. They are cured by medicines, which, at the same time that they exert a tonic influence, produce and keep up an impression upon the system greater than that communicated by the cause of the disease.

AGUE CAKE is a hard tumor on the left side of the belly, lower than the false ribs, and said to be the effect of intermittent fever.

TREATMENT.

A partial description is given of the treatment of this complaint in another part of this work. We will here observe, that a knowledge of the time of a returning paroxysm being almost certain, the patient may uniformly avoid it by the following treatment, viz: Some time previous to the return of the cold stage, let the patient take his bed; apply our Fever Liniment over the whole body, at the same time take a half tea-spoonful of Diaphoretic Drops, once in ten or twenty minutes; place warm bricks to the feet and sides, when a perspiration will break out: then keep up this perspiration by warm herb tea for two hours; afterwards wash off the body and then again apply the Liniment; put on clean dry underclothes—and seldom if ever will it be necessary to have recourse to this treatment a second time. There is another advantage gained by this course: the disease is not so likely

to supervene as it otherwise would be, or if the sweating process was to be dispensed with. An ague cake is uniformly removed by applying a plaster of the same Liniment on the side, and taking plentifully of the Diaphoretic Drops.

CHAP. III.

PHTHISIS, OR PULMONARY CONSUMPTION.

THIS disease is more frequently found in cold climates than in warm. The causes which predispose to it, are very numerous. The following are, however the most general:— Hereditary disposition; peculiar formation of the body, obvious by a long neck, prominent shoulders, and narrow chest; scrofulous diathesis, indicated by a fine clear skin, fair hair, delicate rosy complexion, large veins, thick upper lip, a weak voice, and great sensibility; certain diseases, such as syphilis, scrofula, small pox, and measles; particular employments, exposing artificers to dust, such as needle pointers, stone cutters, millers, etc., or to the fumes of metals or minerals under a confined or unwholesome air; violent passions; agitation of mental affections, as grief, disappointment, anxiety, or close application to study without proper exercise; frequent and excessive debaucheries; late watching; drinking of strong liquors; great evacuations, as diarrheas, diabetes, excessive venery, fluor albus, immoderate discharge of the menstrual flux; the continuing to suckle too long under the debilitating state; and, lastly, the application of cold, either by a too sudden change of apparel, keeping on wet clothes, lying in damp beds, or exposing the body too suddenly to cool air, when heated by exercise; in short, anything that gives considerable check to perspiration. The more immediate or occasional causes of phthisis, are hemoptysis; inflammation in the lungs, proceeding to inflammatory tumors; catarrh; asthma; and tubercles, or swelling knots; the last by far the most general.

The incipient symptoms usually vary with the cause of the disease; but when it arises from tubercles, it is thus marked: It begins with a short, dry cough, that at length becomes ha-

bitual, but from which nothing is spit up for some time, except a frothy mucus, that seems to proceed from the fauces. The breathing at the same time is somewhat impeded, and upon bodily exertion, is much hurried; a sense of straitness, with oppression at the chest, is experienced; the body gradually becomes leaner, and great languor, with indolence, dejection of spirits, and loss of appetite, prevails. In this state, the patient frequently continues a considerable length of time, during which he is, however, more subject than usual, to slight colds, and upon one or other of these occasions, the cough becomes more troublesome and severe, particularly by night, and is at length attended with an expectoration which, towards morning, is more free and copious. By degrees, the matter which is expectorated becomes more viscid and opaque, and now assumes a greenish color and purulent appearance, being, on many occasions, streaked with blood. In some cases, a more severe degree of hemoptysis prevails, and the patient spits up a considerable quantity of florid, frothy blood. The breathing at length becomes more difficult, and the emaciation and weakness go on increasing. With these, the person begins to be sensible of pain in some part of the thorax or breast, which, however, is usually felt at first under the breast, palate or sternum, particularly on coughing. At a more advanced period of the disease, a pain is sometimes felt in one side, at times prevailing to so high a degree, as to prevent the person from lying on that side; but it more frequently happens that it is felt only on making a full inspiration, after coughing. Even where no pain is felt, it often happens that those who labor under consumption, cannot lie easily on one or the other of their sides, without a fit of coughing being excited, or the difficulty of breathing being much increased. At the first manifestation of the disease, the pulse is often natural, or perhaps is soft, small, and a little quicker than usual; but when the symptoms which have been enumerated, have subsisted for any length of time, it then becomes full, hard, and frequent. At the same time, the face flushes, particularly after eating; the palms of the hands, and the soles of the feet, are

affected with burning heat; the respiration is difficult and laborious. At evening the symptoms increase; and by degrees the fever assumes a hectic form. This species of fever is evidently of the remittent kind, and increases in symptoms twice every day. The first occurs usually about noon, and a slight remission ensues about five in the afternoon. This last, however, is soon succeeded by another symptom, which increases gradually until after midnight; but about two o'clock in the morning, a remission takes place, and becomes more apparent, as the morning advances. During the exacerbations, or increase of symptoms, the patient is very susceptible to any coolness of the air, and often complains of a sense of cold, when the skin is, at the same time, preternaturally warm. In the evening, these exacerbations are by far the most considerable. From the first appearance of the hectic symptoms, the urine is highly colored, and deposits a copious, branny, red sediment. The appetite, however, is not greatly impaired; the tongue appears clean; the mouth is usually moist; and the thirst is inconsiderable. As the disease advances, the fauces put on rather an inflamed appearance, and are beset with aphtha, or sore mouth, and with small, white ulcers on the tongue, gums, and throat, resembling small particles of curdled milk, and the red vessels of the tunica adnata, or white of the eye, become of a pearly white. During the exacerbations, a florid, circumscribed redness appears on each cheek; but at other times, the countenance is pale, and somewhat dejected. At the commencement of hectic fever, the person affected is usually costive; but in a more advanced stage, a diarrhea often comes on, and this continues frequently to recur during the remainder of the disease. Colliquative, or severe sweats, likewise break out, and these alternate with each other, and induce exceedingly great debility. In the last stage of the disease, the emaciation is so great, that the patient has the appearance of a walking skeleton; his countenance is altered, and his cheeks are prominent, his eyes look hollow and languid, his hair falls off, his nails are of a livid color, and much incurvated, and his feet are swollen. To

the end of the disease, the senses remain entire, and the mind is tranquil, and full of hope. It is, indeed, a happy circumstance attendant on phthisis, or consumption, that those who labor under it, are seldom apprehensive or aware of danger; and it is no uncommon occurrence to meet with persons laboring under its most advanced stage, flattering themselves with a speedy recovery, and forming distant projects under that vain hope. Some days before death, the extremes become cold. In some cases, a delirium precedes that event, and continues until life is extinguished.

As an expectoration of mucus from the lungs may possibly be mistaken for purulent matter, and may thereby give us reason to suspect that the patient labors under phthisis, or consumption, it may not be amiss to point out a sure criterion by which we shall always be able to distinguish the one from the other. The medical world are indebted for the discovery to the late Mr. Charles Darwin, who has directed the experiment to be made in the following manner: Let the expectorated matter be dissolved in vitriolic acid, and in caustic lixivium, and add pure water to both solutions. If there is a fair precipitation in each, it is a certain sign of pus; but if there is not a precipitate in either, it is certainly mucus. Sir Everard Home, in his dissertation on the properties of pus, and the means of distinguishing accurately between pus and animal matter, asserts, that the property which characterizes pus, and distinguishes it from most other substances, is, its being composed of globules, or round particles, which are visible when viewed through a microscope; whereas animal mucus, and all chymical combinations of animal substances, appear in the microscope to be made up of flakes: this property was first noticed by the late Mr. John Hunter. Pulmonary consumption is, in every case, to be considered as attended with much danger; but it is more so when it proceeds from tubercles, or round, corrupted pimples, than when it arises in consequence either of hemoptysis, or pneumonic suppuration, (inflammation in the lungs, and inflamed mucus deposited in the lungs). In the last instance, the risk will be

greater, where the abscess breaks inwardly, and gives rise to empyema, or pus in the thorax, than where its contents are discharged by the mouth. Even cases of this nature have, however, been known to terminate in immediate death. The impending danger is generally to be judged of, however, by the hectic symptoms; but more particularly by the fetor of the expectoration, the degree of emaciation and debility, the extreme sweats, and the diarrhea. The disease has, in many cases, been found to be considerably retarded in its progress by pregnancy; and in a few instances, it has been alleviated by an attack of mania, or madness. The morbid appearance most frequently to be met with, on the dissection of those who die of phthisis, or consumption, is that of tubercles in the cellular substance of the lungs. These are small tumors, which have the appearance of indurated glands. They are of different sizes, and are often found in clusters. Their firmness is in proportion to their size; and when laid open in this state, they are often of a white color, and of a consistence nearly approaching to cartilage. Although tranquil at first, they at length become inflamed, forming little abscesses, or vomicae, in the lungs, which, breaking and pouring their contents into the bronchia, or throat, give rise to purulent expectoration, and thus lay the foundation of phthisis, or consumption. Such tubercles, or matter, are most usually situated at the upper, and back part of the lungs; but in some instances, they occupy the outer part, and then adhesions to the pleura are often formed. When the disease is partial, only about a fourth of the upper and posterior part of the lungs, is usually found diseased; but in some cases, life has been protracted till not one-twentieth part appeared, on dissection, fit for performing their functions. A singular observation, confirmed by the marked collections of anatomists, is, that the left lobe is much oftener affected than the right.

The indications are, first, to moderate inflammatory action; second, to support the strength, and promote the healing of the lungs; third, to palliate urgent symptoms.

To effect the objects just mentioned, our system is altogether new; the principles upon which it is based having been adopted, heretofore, only in part. We reach the diseased organs through the medium of cutaneous absorption—depending principally upon the sanative powers of our external agents; and from demonstration, we hazard nothing in saying, that we can prepare nearly all remedial agents, and introduce them into the system through this medium, so as to produce the desired effect, much more readily than by the common mode of exhibiting through the stomach. With this we also combine the desideratum of releasing the internal organs from the great action, necessary to be undergone, by medicines passing the digestive function, which all grant is most grateful to the enfeebled state of the patient. In all pectoral diseases, or complaints of the chest, we are opposed to the giving of strong medicines internally, at least in large doses, often repeated, for the reason already stated, that in a healthy state, all the energies of the stomach are called forth to perform their office; hence their inability to perform digestion when enfeebled. In all its stages, we have been enabled to discover the most decided advantage by the use of our remedies. They excite the torpid organs to action, impart a most efficient tonic to the worn out and enfeebled patient, while they allay inflammation, and enable a free and gentle expectoration; readily removing the obstructed matter, and leaving the patient in a state of tranquillity. From experience and observation for some time past, we are led to fix upon the following mode of

TREATMENT.

In cases where the lungs are inflamed *only*, and the patient has not for a great length of time been subject to a cough, relief may be granted by applying our Cough Liniment to the side, and between the shoulders, two or three times a day; at the same time taking the Vegetable Syrup, or if that be not at hand, take from four to twelve drops of the Pecto-

ral Tincture three times a day, and at night apply plasters spread with the Liniment, and a warm brick to the bottoms of the feet, and take some warm herb tea to cause free perspiration; at the same time, Tonic Bitters may be taken two or three times a day, to sustain the strength of the patient. In more advanced stages, where the patient shall have been afflicted with a light cough a long time, pains in the breast, sides, and shoulder blades, hemiplegia, and emaciation, with evident symptoms of the lungs having become ulcerated, a more elaborate course ought to be pursued—the Liniment should be worn on plasters, applied to the breast, back, and on the bottoms of the feet, renewed twice a day. If the system has become very impure, this will cause small pustules to appear on the surface in two or three days, which will discharge virulent pus. The parts should be washed with warm Castile soap suds at each dressing, and once in two or three days the patient should be washed entire, in warm soap suds, then in salt and water, make free use of the flesh brush, and apply the Liniment again. The Liniment should also be rubbed over the whole body, particularly the throat and spine. If the pustules become too sore for the Liniment to be borne on them, the Vegetable Cerate may be applied for a few dressings, and then the Liniment resumed. The Cough Syrup should be taken three times a day, in tea or table-spoonful doses, as the tickling sensation attending the cough may demand. The Pectoral Tincture must also be administered, in doses of from three to twelve drops, as occasion may require. This article is one of the best expectorants known; and when taken in large doses, excites nausea and vomiting—but we seldom find it necessary to produce this effect. If the patient has chronic wandering pains, an under dress of white silk is valuable to be worn. The diet should be light, exercise moderate, night and damp air avoided, and the feet kept warm. In cases of ulceration, this course will generally cause a discharge of matter in two or three days, sometimes by vomiting, and at other times by the intestinal canal. If port wine is agreeable to the patient, it may be taken in small

quantities. We have known some instances of sudden relief by the course here recommended. In such cases, it will be absolutely necessary for the patient to follow up the remedies, or at least to apply the Liniment for a considerable length of time, to confirm a cure. But if through the agency of external remedies, the morbid matter can be expelled from the system, the digestive organs restored to a healthy tone, and the whole functions of the body strengthened, there is much gained towards the restoration of health. These effects, it has appeared, we have been enabled to produce, principally, by our remedies externally applied; for by the use of the Liniment on the stomach and bowels, we have frequently known a healthy state of both to take place, though not always without the aid of some medicine taken into the stomach.

To aid in the relief of the cough, we sometimes prepare a Syrup in the following manner: Take two pounds of turnips, and slice them one-third of an inch thick; two pounds of loaf sugar, pulverized: place a layer of the turnips in a bake-oven, then a layer of the sugar, and so on alternately—then cover it tight and place it over a slow fire, for three hours; then strain it, and bottle for use. Dose: one table-spoonful, three times a day. Covering the chest with a jacket of glazed cloth spread with the Liniment, as recommended in some other cases, has effected a cure in many instances when all other means had failed.

It has been with much diffidence that we have published some of the results of experiments made with our remedies in cases of consumption. We never have spoken confidently in this matter, until after we had treated a large number of cases, which had been given up by all orders of physicians as incurable. These favorable results, together with testimonials from almost every section of the United States, vouched by physicians, clergymen, and gentlemen, of undoubted veracity, have induced us to publish the most successful practice by which patients, laboring under pulmonary complaints, have been relieved.

COUGH,

Is a deep inspiration of air, followed by a sudden, violent, and sonorous expiration, in a great measure involuntary, and excited by a sensation of the presence of some irritating cause in the lungs or windpipe. The organs of respiration are so constructed, that every forcing substance, except atmospheric air, offends them. The smallest drop of water, entering the windpipe, is sufficient to produce a violent coughing, by which the organs labor to expel the irritating substance. A similar effect is produced by inhaling smoke, dust, etc. The sudden expiration of air from the lungs, is produced by the violent contraction of the diaphragm, and the muscles of the breast and ribs. These parts are thus affected, by a sympathy with the organs of respiration, which sympathy springs from the connection of the nerves of the different parts. The sensation of obstruction or irritation, which gives rise to cough, though sometimes perceived in the chest, especially near the pit of the stomach, is most commonly confined to the *trachea*, or windpipe, and especially to its aperture in the throat, termed the *glottis*; yet this is seldom the seat of the irritating cause, which is generally situated at some distance from it, and often in parts unconnected by structure or proximity, with the organs of respiration. Of the various irritations which give rise to cough, some occur within the cavity of the chest; others are external to that cavity; some exist even in the viscera of the pelvis. Of those causes of cough which take place within the chest, the disorders of the lungs themselves are the most common, especially the inflammation of the mucous membranes, which excites the catarrhal cough, or common cold. This disease is generally considered unimportant, particularly if there be no fever connected with it. But every cough, lasting longer than a fortnight or three weeks, is suspicious, and ought to be medically treated. Another common cause of cough which has its seat in the lungs,

is inflammation of those organs, whether in the form of pleurisy or peripneumony. These diseases do not differ very essentially, except in violence and extent, from the acute catarrh, but are more dangerous, and more rapid in their progress; and the constitution is excited to a highly febrile condition. Even after the acute state of inflammation may have subsided, a cough, attended with extreme danger, sometimes continues to be excited, by collections of pus, or abscesses, which ensue in the substance of the lungs, and either terminate in consumption, or suffocating the patient by suddenly bursting; more rarely the pus is discharged gradually from a small aperture, and the patient recovers. In such cases, the fever, originally acute, is converted into a hectic, with daily chills, succeeded by heat, and flushing of the face, night sweats, and emaciation.

Another frequent origin of cough, is the rupture of some of the blood-vessels of the lungs; and the consequent effusion of blood into the cells, which is expelled by the cough that its irritation excites, constituting what is technically termed *hemoptoe*, *hemoptysis*, or spitting of blood. When the vessels of the lungs are thus ruptured, they seldom heal readily, but degenerate into ulcers, which pour out a purulent matter; and, by this discharge, the vital powers are gradually worn down and destroyed. This is a common source of consumption, or *phthisis pulmonalis*. A cough is excited; and the same fatal disorder is also induced, by the existence of tubercles in the lungs. These are little tumors, which gradually inflame and ulcerate, and produce the same consequences as the ulcerations from hemoptysis. Calculi, or stony concretions, are sometimes formed in the lungs, and the irritation which they produce necessarily excites a cough, which is liable to terminate in consumption.

There is yet another source of irritation within the lungs, of which cough is an attendant, namely, an effusion of *serum* into the parenchymatous substance of the lungs, or into the cellular membrane, which connects the cells and blood-vessels together. This has been called *anasarca pulmonum*, or

dropsy of the lungs, and is marked by great difficulty of breathing, with a sense of weight and oppression in the chest, occasioned by the compression of the air cells and vessels by the accumulated water; hence so great irregularity of pulse, frightful dreams, imperfect sleep, etc., are among its symptoms. Inflammation of the heart, and of the *pericardium*, or membrane surrounding it, is also accompanied by cough, and other symptoms not easily distinguishable from those of pleurisy and peripneumony. Where a cough is caused by disorders of parts external to the cavity of the chest, it is generally dry, as the irritating cause is external, and not any obstructing matter in the lungs themselves. Disorders of the viscera of the abdomen, especially of those which lie in contact with the diaphragm, frequently induce a cough. A short dry cough invariably attends inflammation of the liver, whether acute or chronic, and accompanies the various tubercular and other obstructions in that organ. Hence inflammation of the liver is not unfrequently mistaken for inflammation in the lungs; and, in some of the chronic diseases of the liver, the cough is occasionally complained of as the most urgent symptom. The presence of pain in the right side, shooting up to the top of the shoulder, the dryness of the cough, and pain, enlargement, hardness, or uneasiness on pressure below the ribs of that side, will afford the best means of distinguishing whether a disease of the liver is the origin of the cough. Disorders of the stomach are, also, often accompanied with a cough of the same dry and teasing nature, especially when that organ is over distended with food, or is in the opposite condition of emptiness. A short cough, is, therefore, a frequent symptom of indigestion and hypochondriasis, or of that weakness of the stomach which is popularly termed *bilious*. In short, there is scarcely any one of the viscera, in the cavity of the abdomen, the irritation of which, in a state of disease, has not excited cough. Disorders of the spleen, pancreas, and even the kidneys, have all given rise to this symptom; and external tumors, attached to them have had the same effect. Any distention of the abdomen, which, by its pressure

upwards, impedes the descent of the diaphragm, and consequently the expansion of the lungs, occasions cough. Thus, in the *ascites*, or dropsy of the belly, the water—in tympanites, the air—in corpulency, the fat in the omentum—and, in pregnancy, the gravid uterus—all have the effect of exciting cough in many constitutions. The variety of causes from which coughs may arise, must convince every reader of the absurdity of attempting to cure all kinds of coughs by the same remedy.

TREATMENT.

Most of the directions in cases of consumption which are recommended in this work, will apply to coughs generally. We have known coughs of short duration cured by a few applications of our Cough Liniment about the throat, breast, between the shoulders and to the bottoms of the feet. This mode of cure is much facilitated by administering our Diaphoretic Drops. But after the cough has become seated, it is necessary to give the Pectoral Tincture as an expectorant and sometimes as an emetic. Whoever understands our mode of treating pulmonary complaints will not be at a loss to adopt our remedies in coughs. The great object in this disorder will generally be accomplished when the obstructions are removed. Little more is necessary than Tonics to restore the diminished strength of the patient.

RHEUMATISM;

A DISEASE, attended with sharp pains, which has so much resemblance to the gout, that some physicians have considered it not an entirely distinct disease; although they are by no means to be confounded.

Rheumatism is distinguished into *acute* and *chronic*. The former is of short continuance, and either shifting to different parts of the body, or confined to a particular part; in the latter case, it has a tendency to pass into the chronic, unless

properly attended to; it is often attended with fever, or sometimes comes on in the train of a fever. This combination of rheumatism with fever is called rheumatic fever, which is considered by physicians a distinct species. Chronic rheumatism is attended with pains in the head, shoulders, knees, and other large joints, which at times are confined to one particular part, and at others shift from one joint to another, without occasioning any fever; and in this manner the complaint continues often for a considerable time, and at length goes off. No danger is attendant on chronic rheumatism; but a person having been once attacked with it, is ever afterwards more or less liable to returns of it. Neither is the acute rheumatism frequently accompanied with much danger. The acute is preceded by shivering, heat, thirst, and feeble pulse; after which the pain commences, and soon fixes upon the joints. The chronic rheumatism is distinguished by pain in the joints, without fever, and is divided into three species: *lumbago*, affecting the loins; *sciatica*, affecting the hip; and *arthrodynia*, or pains in the joints. The acute rheumatism mostly terminates in one of these species. Rheumatism may arise at all times of the year, when there are frequent vicissitudes of the weather from heat to cold, but the spring and autumn are the seasons in which it is most prevalent, and it attacks persons of all ages; but very young people are less subject to it than adults. Obstructed perspiration, occasioned either by wearing wet clothes, lying in damp linen, or damp rooms, or by being exposed to cool air when the body has been much heated by exercise, are the causes which usually produce rheumatism. Those who are much afflicted with this complaint, are very apt to be sensible of the approach of wet weather, by finding wandering pains about them at that period. Rheumatism usually affects only the external muscular parts; but it has sometimes been known to affect the internal parts, especially the serous membranes, the pleura, the peritoneum, the dura mater.

TREATMENT.

The forms of rheumatism are so various—the appearance so different in persons of different habits, that it is no easy matter to give *special* directions for the treatment thereof. Much must depend on circumstances, which are so various, that we find great difficulty in directing and adapting all the modes, in which our remedies are susceptible of being successfully applied. In common cases of rheumatism, pains in the joints of short duration, a few applications of the Rheumatic Liniment will generally cure. If of longer standing, and there be wandering pains, we have known the patient cured by one full application over the whole body, taking the Diaphoretic Drops freely, and herb tea, covering up warm in bed, with hot bricks to the feet and sides, and keeping in a profuse perspiration for two hours. Perhaps it may be necessary, in some of these cases, to apply the Liniment a few times afterwards, in order to prevent a recurrence.

In chronic rheumatism of long standing, the disease is by no means so easily subdued. In addition to the above treatment, we find it sometimes necessary to take internally, for a length of time, our Vegetable Syrup and Alterative Drops; wear plasters spread with the Liniment over the region of the pain; and frequently, it is necessary to use so much Liniment on the plasters as to cause an abraded surface—and still continue the Liniment.

We also wash the affected parts with the Diaphoretic Drops. Make use of the saline bath frequently. Wash off with soap suds, and use the flesh brush freely. Sometimes we give an emetic of the Pectoral Tincture. We are careful to keep the bowels open by cathartics, if necessary. We frequently give our Essence of Life, and in some extreme cases, the Nerve Sanative is of much importance, especially if there be any cramps in the stomach. If there be paroxysms of fever, we reduce them with our Fever preparations. Some-

times we steam the affected limbs with bitter herbs, and at others, we sweat the patient with burning alcohol, in which salt has been dissolved.

We have cured many extreme cases, after many months' continuing to make the above applications every day. When the system is very torpid, we have introduced two ounces of Liniment into the system, daily, for more than a month, and found the most decided advantage therefrom.

CHAP. IV.

DYSPEPSIA.

DYSPEPSIA—difficulty of digestion. The strict etymology of the term implies an imperfect, or disordered condition of the functions of digestion. Systematic writers, in their artificial arrangements have been not a little perplexed to find an appropriate location for this affection, and this difficulty must exist whilst symptoms, which are always fluctuating, are admitted into systems of nosology, as the elements of nomenclature and arrangement. From the same circumstances, different symptoms of the affection have received the character of separate disease, as apepsia, bradypepsia, anorexia, cardialgia, etc. These are no more than different grades in the symptoms, or varieties of the affection, and are not different diseases.

The disorder of the digestive function is the most frequent and general of the ailments that afflict man in the civilized state. All classes and all ages suffer from its attacks. Few are so happy as to pass through a life of ordinary duration, without undergoing a protracted struggle with this malady, and experiencing its torments. Let it once be fully established, and the comfort of existence disappears, to be regained, in most cases, tediously, and at the price of the most ascetic self-denial. The greater prevalence of dyspepsia, or indigestion, in modern times, arises from the more frequent injury done to the stomach and its functions, directly, by the habits of luxurious indulgence, which have been exceedingly increased and extended; and, indirectly, by the multiplication of intellectual and moral agitations, through an extension of the commercial and financial operations of society, the greater

activity and employment of the mental faculties, and by the augmentation of political, social and individual reverses. Something, too, is to be ascribed to the mere change of names. We call that *dyspepsia* now, which formerly, was termed *liver disease, bilious disorder*, etc.

A large proportion of the discomfort produced by this malady arises from an ignorance of the digestive functions, leading to their abuse and premature derangement, and may be obviated, to a great extent, by instruction as to the nature of these functions, and their natural exercise. A general view of the digestive organs and functions is therefore requisite to an understanding of their disorders, the means to prevent, and the methods of remedying them.

All organized or animated beings hold their existence under the condition of renewing incessantly, the elements of their composition, by an appropriation to themselves of exterior matters. Simple animals find, in the medium wherein they live, and from which they directly receive them, the principles serving for their composition. The decomposition of animal and vegetable matter in the soil prepares the aliment or nutritive principle of vegetables, which, being held in solution by water, is absorbed by their roots. In all these beings there are no digestive organs or functions. The preparations of their nutriment is effected by physical operations exterior to themselves, and over which they have no control. In the higher and more perfectly organized beings, as in man, the case is very different. Nature does not present to them the nutritive elements in a state fitted for introduction, at once, into the interior organism, and for employment in its composition. Their aliments consist of the nutritive principles in a compound state, intimately combined with other substances, from which they require to be disengaged. This is accomplished by the animal itself, which is provided with especial organs, or apparatus and functions for this purpose. Digestion then consists in the disengagement of the nutritive elements from their combinations, and their reduction to the molecular state, thus preparing them for introduction into the

vessels, and for diffusion throughout the organism, to subserve the purpose of its composition. It is a process analogous to the decomposition of the aliment of vegetables in the soil, and is affected, like all decompositions, by analogous or chymical operations. In this class, the procuring of the aliment is the act of the animal, depending on its voluntary powers, and is controlled by a great variety of circumstances, affecting the quantity and quality of the food.

The organs composing the digestive apparatus in man, are numerous. They are the mouth, armed with teeth, for mechanically breaking down the food by mastication; the salivary glands, furnishing a fluid intimately combined with the food, in mastication, and collected in the stomach, which is its reservoir; the pharynx, a muscular and membranous bag, for the reception of the masticated bolus from the mouth; the œsophagus, a muscular and membranous tube, for conducting the bolus into the stomach; the stomach, a muscular and membranous bag, or enlargement of the alimentary canal, secreting a fluid or fluids, and a reservoir of the salivary and other secretory fluids of the interior surfaces. In the stomach the food is subjected to the decomposing process, until reduced to a pulpy mass, called *chyme*, consisting of the nutritive and innutritive elements, in a state of mechanical mixture. Then follows the duodenum, or second stomach, in which the chymous mass is submitted to the action of the biliary and pancreatic fluids, and in which the nutritive elements begin to separate from the innutritive matters, and to be absorbed by the lacteals, the roots of the animal economy. Afterwards we find the liver and pancreas, furnishing bile, and a species of saliva, which are mixed with, and act on the chyme in the duodenum; the jejunum and ileum, or small intestines, in the course of which the separation, begun in the duodenum, is completed, and nearly the whole of the nutritive principles forming chyle, are absorbed; and, lastly, the large intestines, a reservoir for all the excrementitious principles, and which, in it, are converted to *fæces*. The whole of these organs compose the apparatus of digestion, but all

are not of equal importance. The stomach and duodenum are the most eminent organs, and those whose condition exercises the greatest influence over the powers of digestion. The different parts of this apparatus, are intimately connected, and a natural state of each of them, and a due exercise of the functions of each, are essential to the healthy, undisturbed performance of digestion. This connection is maintained through the ganglionic system of nerves, which not only unites these organs together, but combines them with all the congeries, appropriated to the perfect elaboration of the nutritive and sustaining principles in the economy. The stomach is the center of the digestive apparatus, and may be regarded in nearly the same view, for the whole of the organs connected with individual nutrition. It owes this character to its intimate union with the great solar plexus, the center or brain, if it may be so termed, of the ganglionic system, regulating the nutritive functions. It is also immediately associated with the brain, through the medium of the eighth pair or pneumo-gastric nerves, and thus is placed in relation with the exercise of the moral and intellectual faculties. The stomach is, consequently, liable to be disordered in its functions, by violent impressions upon these faculties, as these also in their turn are liable to be affected by the disordered condition of the stomach. It is necessary to have these diversified connections pointed out, in order to possess a clear understanding of the numerous and very different sources, from which disturbances arise to the progress of digestion.

A few words will now be necessary as to digestion itself. All substances are not fitted for aliment, nor susceptible of digestion. Food is intended for the renovation of the body. It must consist of the same elements as those which constitute the animal structure, and be capable of becoming organized and vital. It must, then, contain at least three elementary animal principles—hydrogen, carbon, and oxygen; and much of it also contains a fourth—viz: azote. These elements form secondary compounds, in which state alone they constitute aliment: such are albumen, fibrin, gelatin, osmazome, oil,

engan, farina, mucilage, and other animal and vegetable compounds. In all these substances, the molecules are easily separable, without being chimically decomposed; and this is one of the primary requisites of digestibility, to effect which is the chief object of digestion. The masticated and insalivated food passes into the stomach. Here it is macerated in the saliva collected in the stomach, and in the proper liquid secreted by the villi of the gastric mucous membrane, at a temperature of 104° Fahr. This liquor is called *gastric juice*. Its true nature is not accurately determined; but, as far as discoveries of it have been made, it resembles saliva, mixed with a small portion of lactic or muriatic acid. The stomach, in a healthy state, always contracts on its contents, so that, in digestion, its parietes are always in contact with the food. During digestion, the stomach has a constant vermicular motion, its muscular fibers contracting successively, from the smaller to the larger end. The food thus agitated, acquires a rotatory movement, and is mingled with the fluids of the stomach. In a short time, the change to be accomplished in the stomach commences; the food, becoming pulpy and thin, is reduced to a semifluid, of a light, grayish color. From the uniform pressure of the stomach, the solid and most resisting portions are forced into the center, while the digested and more fluid matter is found on the surface, and is gradually carried, by the contraction of the muscular fibres, into the duodenum. William Philips, and others, have been led to suppose, from this circumstance, that the food in contact with the parietes of the stomach, was alone digested; but it is a mere physical result, as uniform pressure in every direction, on a mass of different consistency, will always drive the most fluid to the circumference.

The pulpy, grayish substance, resulting from the stomachic digestion, is called *chyme*. When examined with the microscope, the writer of this article has always found it to consist of an immense number of transparent globules, of various sizes, intermixed with undissolved fragments of the fibers of the alimentary substance. When food is masticated, and

macerated for a few hours in simple saliva, he has found it to present exactly the same appearances as the chyme of the stomach. The *digestion of the stomach*, he infers from his experiments, *is not a decomposition of the alimentary matter, but is a simple disintegration of it into its component molecules, the animal character remaining unchanged.* The chyme, having passed into the duodenum, meets with the pancreatic liquor and the bile. What are the positive changes induced by these fluids, is not accurately known. The acids of the chymous mass are neutralized by the alkaline principles of the bile, the picromel and coloring matter of which appear to coalesce with the unassimilative principles of the food, and assist in their conversion into fæces. A chymical modification in some of the alimentary elements, may also be effected. It is certain that *chyle*, or the nutritive principles of which blood is formed, does not appear in the lacteals until after the action of the bile and pancreatic fluid on the chyme, the product of the stomachic digestion. The action of the stomach on the food, is that usually designated as *digestion*, and it is the derangement of this process that is usually expressed by the term *dyspepsia*. The process accomplished in the duodenum, is also a true digestion, and the symptoms arising from its disordered state, are confounded with those of the stomachic digestion, in the general account of dyspepsia.

From this sketch of the function of digestion, it is evident that its most important agents are, 1st, the fluid secreted in the stomach; 2d, the contractile movements of the stomach, keeping the alimentary mass in constant agitation, mixing it with the fluids as they are secreted, and removing the portion digested, or reduced into chyme; 3d, the application of the biliary and pancreatic fluids to the chyme, in the duodenum; 4th, the contractile movements of this viscus. Most of the derangements of the digestive functions may be traced immediately to a departure from a natural state of some one or more of the above requisites of digestion. But this deviation from the natural order is, itself, an effect. The secretions

are products of organs, and all excitement of the secretory organs beyond the range of healthy action, causes a vitiation of the secretion, or its total suspension. This action of the organ, diminished below the physiological range, is attended with other vitiations of the fluid, or the cessation of its secretion. Indigestion, or dyspepsia, is a consequence of both these conditions of the organs furnishing the fluids of digestion. Digestion is a very stimulating process: all functional actions are exciting. The increased demand for secreted fluids renders an augmented action, and an increase of blood in the furnishing organs, necessary, for their production. The presence of the food, drinks, etc., in the stomach, add to the stimulation of digestion. If the stomach of an animal be examined while in the act of digestion, its mucous membrane is found to be of a diffused scarlet color. The movement of the stomach essential to digestion depends on its nervous communications, and especially on the integrity of the eighth pair of nerves. When these are divided, the stomach and œsophagus are paralyzed; the food is no longer agitated and mixed up with the digestive fluids, and it often regurgitates from the stomach into the œsophagus. This fact proves the influence of the contractile motion of the stomach in the act of digestion. The ganglionic nerves are not less important, though their specific influence cannot as readily be determined. But in many cases of disease of ganglions, vomiting, eructations, pain in the gastric region, and impaired digestion, are accompanying symptoms. Through the nervous system, the function of digestion is exposed to numerous disorders from moral impressions, especially those of an agitating character.

From the preceding principles, it is evident that dyspepsia or indigestion is not, properly speaking, a disease, but rather a symptom, indicative of diseases of the digestive apparatus, themselves very various and even opposite in their character. No specific treatment can, therefore, be laid down for the cure of dyspepsia, but each case requires to be managed according to its peculiar cause and nature. The organ of the digestive apparatus most frequently productive of dyspeptic symptoms

is the stomach, and the most usual cause of dyspepsia is its irritation and inflammation. The stomach is more liable than any other organ to these states, from its direct exposure to so many irritating influences, and its intimate sympathetic communications, which make it participate in the irritations of almost every other organ. The sub-acute and chronic forms of gastric irritations and inflammation, the signs of which have only of late been fully appreciated, are the disorders that, in seven or eight cases out of ten, are termed *dyspepsia*. Hence dyspepsia so frequently succeeds to febrile diseases, especially when treated by emetics, drastics, and the improper use of tonics and stimulants, which, although the patient may escape the fever, leaves him a victim to the chronic, disorganizing and perturbing irritations of the gastric mucous membrane. Hence, too, dyspepsia almost inevitably follows continued abuse of the digestive functions, from too highly seasoned or too abundant food, and stimulant drinks. The constant stimulation of the stomach finally becomes pathological or morbid. The simple prolongation of the functional excitement essential to digestion, continued from meal to meal, without permitting the stomach to revert to a state of repose, is sufficient to constitute a morbid condition. All functions, for their perfect performance, require alternate periods of repose and activity. Incessant action irritates, inflames, and finally disorganizes the structure of the organs.

A second condition of the stomach, productive of dyspepsia, is the congestion of its mucus tissue. This may be confined to the stomach alone, succeeding an attack of acute gastritis, or following on its protracted irritation; or it may be an attendant on a general congestion of the whole portal system involving most of the abdominal viscera. Every irritation is attended by an afflux of the circulating fluids into the structure where it is seated; an afflux proportioned to its intensity and the vascularity of the structure. This gorged state often continues after the subsidence of the irritation that provoked it, and prevents a resumption of the healthy functions. It is a state of passive congestion, and often exists in the mucous

membrane of the stomach, after attacks of inflammation or acute irritations, and embarrasses its digestive operations. In all the extensive irritations of the alimentary canal, especially when attended with fever, having a paroxysmal character, the great portal system of the abdomen becomes loaded with blood, and congestion of its radical vessels ensues. The functions of the viscera are then disordered, the secretions are defective, and indigestion, costiveness, and their attendant affections, are the necessary consequences.

A third state of the stomach, causing dyspeptic symptoms, is precisely the reverse of the preceding. Asthenia, or diminution of vitality and actions below the healthy degree, occasionally takes possession of the stomach. Its circulation is then deficient, its secreted fluids are defective in quantity or quality, its sensibility is impaired, and digestion is imperfect. It is not probable that gastric asthenia is ever primitive. It succeeds to previous irritation, and is often occasioned by irritation in other organs.

All the preceding conditions form a first class of dyspeptic diseases, which, depending entirely on the stomach, may be termed *gastric dyspepsia*. This class embraces three species.

A second class of dyspeptic diseases is connected with the duodenum and its functions. This viscus, similarly constituted to the stomach, is subject to the same morbid alterations. Its mucous membrane is the seat of irritation, in its various grades, and productive of its usual consequences—augmented irritability, sensibility, perversion of secretions, vitiation of structure, and disorder of function. Duodenic irritation most commonly accompanies gastric irritation, and the symptoms of the two are blended together. It exists, however, in many instances independently, and then manifests particular symptoms, which are often termed *dyspepsia*. It is, more especially, the chronic irritations of the duodenum, that pass for dyspepsia. It is not probable that congestion, or asthenia ever affects the duodenum exclusively, to the detriment of its functions. When these states prevail, it is in conjunction

with similar conditions of the whole digestive apparatus. At least, we have no knowledge of these states limited to the duodenum.

A third class of dyspeptic diseases depend on those organs which furnish nerves to the digestive viscera. The ganglionic system of nerves, distributed on each side of the spine, from the head to the pelvis, transmits nerves to all the organs connected with the nutritive function. The stomach especially, is largely supplied from the solar plexus, and it receives, likewise, numerous nervous filaments from the pneumo-gastric, placing it in connection with the functions of relation. The offices of the ganglionic system, are not ascertained with precision. It is, however, well determined, that diseases of the ganglions, disorder the functions of the viscera to which they transmit nerves. Hence arises an order of dyspeptic symptoms, independent of any immediate affection of the stomach, but occasioned by disease in the great solar, or other neighboring plexus. The disorders of the digestive functions, from this cause, are various. The sensibility of the stomach is sometimes greatly increased, constituting gastralgia. At other times, the secreted fluids of the stomach are morbidly acid. The stomach appears, in other cases, to be partially paralyzed, and the peristaltic movements, necessary for the admixture of the food with the gastric fluids, and the continuous passage of the chyme into the duodenum, are suspended. At the same time, considerable quantities of flatus collect in and distend the stomach, preventing its action on the food. Mechanical manipulation of the abdomen, and particularly of the epigastrium, after a meal, becomes a substitute for the natural motion of the stomach, expels the wind, and facilitates digestion, that would otherwise be laborious and painful.

Dyspepsia, or indigestion, from this analysis of its modes of production, is seen not to be a disease of uniform character, and depending on an identical state of the digestive organs. It is attached, as a symptom, rather to a variety of conditions, each of which requires to be managed in its appropriate mode.

It is not possible that it can be remedied by any one general mode of treatment, or by any set of specific remedies.

The most common causes of dyspepsia, are excesses of various kinds, especially in *quantity* of food. Most individuals, in this country, err in this respect. Meat at three meals, daily, can be borne only by the most robust frames, and by hard laborers. Persons of a sedentary life, require less nutriment; the economy makes less demand on the stomach for supplies; and if it be compelled then to labor, it is at its own loss. Exercise, or the expenditure of the nutritive elements by the economy, and the quantity of food to be digested, must be proportioned to each other, for the preservation of health, and the due vigor of digestion. The food, by being rendered tender and pulpy, is reduced to chyme in a shorter period, with a smaller expenditure of the secreted fluids, and less excitement of the stomach, than when it is not properly concocted. The art of long and healthy living, will depend on a perfect system of cooking, and a rational mode of eating. The powers of the stomach differ in individuals, as much as the force of their muscles; and each one must adopt a mode of nutrition, both as to quantity and quality of food, suitable to the wants of his economy, and the digestive capacity of his stomach. The quality of food is a frequent cause of dyspepsia. Tough and badly dressed meats, and crude vegetables, are among the prominent causes of this affliction; as are also hot bread and cakes, heavy and fresh bread, and the daily use of hot coffee for breakfast. In enumerating the most common causes of dyspeptic symptoms, we ought not to omit the frequent exacerbations of malevolent passions, as anger, hatred, envy, jealousy, and, what is not often suspected, excessive indulgence and abuse of the venereal propensity. Another fruitful source of the digestive disorders, is found in the employment of emetics, and in a frequent resort to saline or drastic cathartic medicines. When a constipated habit prevails, it should always be overcome, if possible, by a laxative regimen, and the acids of purgatives should be cautiously and rarely invoked.

TREATMENT.

Though it may not be expected that our general directions will be competent to meet the different forms of this disease, in all cases, the ingenuity of those who are acquainted with our remedies will, in most cases, suggest the means of supplying the deficiency, according to the nature of the case. In all cases, we

1st. Apply the Stimulating Liniment, with much friction, to the stomach; wear a plaster of the same over the whole region of the liver, and down as low as the navel, renewing the same once or twice a day, and at each renewal rub the Liniment in with the hand, as first directed. If the nerves be affected, apply the Nerve Liniment on the whole length of the spine, and on the top of the head. Wash the whole body with salt and water, applied with a flesh brush (stiff as can be borne) every day.

2d. In more severe cases, wash the whole body with soap and water, applied with a flesh brush, wipe dry, apply the salt and water, (salt as it can be made,) rub dry, and then apply the Stimulating Liniment over the whole body, once every day, with much friction; apply plasters to the bottoms of the feet; wear the plasters as first directed, also, and repeat the washing off with soap suds, etc., every third day. Take our Vegetable Syrup, Alterative Drops, and Essence of Life, according to directions. To prepare the system for the reception of the Liniment in the first instance, (after washing off and applying the Liniment as directed under this head,) place warm bricks to the sides, and bottoms of the feet, when in bed, and use our Diaphoretic Drops freely, as directed.

3d. In *extreme* cases, where a healthy action of the system is not readily produced by the above directions, and where the liver has become extremely torpid, we use a *salt bath* to good advantage, and immediately apply a plaster of glazed cloth, in form of a vest, covering the whole chest, which is worn night and day, renewing the Liniment and using friction, as above directed.

To apply the salt bath, take a gill of alcohol, and add as much fine salt as will dissolve in it, set it on fire, under a chair, on which let the patient sit, covered with a blanket to his neck, and take of the Diaphoretic Drops according to directions: this will cause a copious perspiration, without any diminution of strength; after which, wash off with warm salt and water, using the brush, and the system will readily receive the Liniment.

In these affections, the bowels generally become constipated: the exhibition of our Vegetable Syrup, will in most cases overcome the difficulty; but should it not be sufficient, a gentle cathartic may be administered.

Note.—When the lungs are in any degree affected, the *Consumption Liniment* should be applied to the breast, and over the region of the lungs, with plasters: so, when the patient is affected with rheumatic symptoms, or pains, accompanying this disease, the Liniment for rheumatism should be applied over the parts thus affected.

A large number of cases, and apparently of very alarming character, have been relieved and cured by the use of our remedies as first directed, and it has generally been found to be all that was necessary for the complete cure of dyspepsia. In some cases, relief is very *soon* gained; in others, it has required time and perseverance; but, when the disease has evidently made a deep impression upon the system, especially when it has been accompanied with nervous or rheumatic affections, and a state of convalescence is not soon produced, we resort to the other remedies and modes of application, as given under the 2d and 3d heads of direction; a persevering use of which we have never known to fail of fully accomplishing the desired object—that of sound health, and vigor.

MENTAL DERANGEMENT—INSANITY.

By these general terms, we understand every form of intellectual disorder, whether consisting in a total want or aliena-

tion of understanding, as in idiocy, or in only slight aberrations of the faculties. Medical writers have adopted different systems of classification, in their treatment of this subject; but perhaps the most convenient, is that which comprises all mental diseases under the four heads of mania, melancholy, demency or fatuity, and idiocy. Lunacy, in its proper sense, implies an influence of the changes of the moon on the state of the mind or body, of which modern science cannot recognize the operation. It is true, that many diseases are periodical; and it is not improbable, that paroxysms of violence among insane persons, may be really increased at the time of a full moon, by the effect of the shadows of clouds, and other objects, as ghosts are generally seen by moonlight; but any other lunar influence, neither experience nor science can discover.

The causes of insanity are divided, by modern writers, into physical and moral. Every excess of passion—joy, grief, anger, fear, anxiety, etc., may become a moral cause of insanity. Great political or civil revolutions have always been observed to be attended with numerous cases of mental derangement. Pinel observed this phenomenon in France, after the revolution of 1789; and Doctor Rush describes similar effects in the United States, after the war of the revolution. Strong religious excitement often produces similar results, although, in many cases, religious enthusiasm is only a form of the malady, and not a cause. Madden, (*Travels in Egypt, Nubia, etc.*, 1830,) states that insanity is rare among the Mohammedans, and attributes it to their consoling belief in the certainty of their salvation. Doctor Rush thinks that the disease is more common among civilized communities, than with savages, on account of the greater influence of moral causes on the former. The physical causes of insanity are various, and numerous; diseases of various kinds, and of different organs; bodily injuries, or wounds; excessive indulgence in eating, drinking, and other sensual pleasures; privation; exposure to extreme cold, or heat, etc., are among them. Insane persons are often, however, in good health; and dis-

section does not always detect a disordered condition of the organs. Philosophy is not sufficiently acquainted with the mutual action and reaction of the body and the mind on each other, to decide how far the disordered state of the one is consistent with the sanity of the other; nor is it certain that there is any one organ, or function, which must be diseased, to affect the mind. Climate, age, occupation, and sex, are often mentioned as causes influencing insanity. But climate does not appear to be an exciting cause, although the moral, civil, religious, or physical condition of a nation, may have rendered the disorder more frequent in some countries than in others. The seasons, however, appear to exercise an influence, and it is generally observed that the cases of insanity are most numerous in the hottest part of the year. Suicides are most frequent when the thermometer is above 84°. Although many circumstances, both physical and moral, appear to render the female sex more liable to insanity, it does not appear that the number of insane females is greater than that of males; drunkenness being more prevalent among the latter, may be one cause of this. In both sexes, the most active period of life, from thirty to forty, presents the greatest number of cases. In regard to occupation, sufficient data do not exist to show that there is any decided predominance of cases in any particular employment.

Idiocy is either a congenital, or an acquired defect of the intellectual faculties, or, as Pinel defines it, an obliteration, more or less absolute, of the functions of the understanding and affections of the heart. Congenital idiocy may originate from a malformation of the cranium, or of the brain itself; the senses are often wanting, or defective, and life is commonly of short duration. Acquired idiocy proceeds from mechanical injury of the cranium, or from an injury or a disease of the brain; from excess in sensual indulgences, intemperance, fatigue, and from moral causes. In some, the senses may be partially affected, or quite destroyed; and life often continues to old age. Absolute idiocy admits of no

cure; but it should not be too hastily concluded that a patient is in this state.

The term *demency* is applied to a complete or partial hebetude of individual faculties, particularly those of association and comparison, producing confusion of thoughts, loss of memory, childishness, a diminution or loss of the powers of volition; it differs from idiocy, in being curable. Persons being reduced to this state, exterior objects make but weak impressions on them; the sensations are therefore feeble, obscure, and incomplete; the patient does not form a correct idea of objects, nor compare associate or abstract ideas. It is often merely an attendant of other diseases, or other forms of insanity, and is frequently quite temporary, though it often becomes permanent.

Mania (madness) is a species of mental derangement, characterized by the disorder of one or several of the faculties, or by a blind impulse to acts of fury. Adults are the principal subjects. A nervous temperament, an irritable constitution, predispose to it. Females are more exposed to it than males, particularly at the period when menstruation begins or ceases, during pregnancy, and after delivery. Violent emotions, a dissipated life, excess in any indulgence, sometimes produce it. This disorder of the intellectual faculties, is manifested by extravagant, gay, gloomy, or furious emotions; the gestures and words seem automatic. Sometimes the conversation is rational, but the patient bursts out at intervals, into paroxysms of rage, attacking everything which he meets; the moral affections also seem deadened, and the most ferocious hatred is displayed towards the most natural objects of love. It is sometimes cured, but sometimes remains stationary, and sometimes is converted into demency. Repeated bleeding, hellebore, cold water poured upon the head, scouring, and other means of terror, were formerly employed as remedies. At present, solitude, warm baths, low diet, etc., are more commonly applied. Some dark or mournful ideas occupy the mind exclusively, so that, by degrees, it becomes unable to judge rightfully of existing circumstances,

and the faculties are disturbed in their functions. The powers of the soul become weakened, we might say crippled. If these feelings are allowed to attain a height, at which the power of self-control is lost, a settled gloom takes possession of the mind—consciousness, however, may still continue; the person knows his state: but if consciousness is also lost, if this state becomes continual, the melancholic patient is insensible to the world around him; he only lives within himself, and there only in the circle of one fixed idea. In this disordered state of the feelings, the other faculties may still continue to act, although the mode and result of their operation will necessarily be influenced by the existing disease. There may be reflection in the actions of the patient, but the reflection proceeds from false premises.

Several kinds of melancholy are distinguished; the distinctions are founded, however, mostly on the cause of the disease. A very common cause of melancholy is love. He who loses the great object of his wishes and affections, which has absorbed, we might almost say, the whole activity of his soul, feels more than a jealousy at the success of a fortunate rival; existence appears to him a blank, and himself the most unhappy of men. Another frequent cause of melancholy, is gloomy views of religion. A constant excitement of the feelings, by the awful picture of the eternal punishment of sin, often produces absolute despair. The use of such means, to prepare the mind for the reception of deep religious principles, has not unfrequently led to distraction and suicide. Repeated failures in enterprises pursued with anxious zeal, may also reduce the faculties of a man so much, that he becomes wrapt up solely in the idea of his misfortune. Melancholy patients often flee from men, haunt solitary places, such as grave-yards, and are given to nocturnal rambles. The course of the disease is various; sometimes it lasts a series of years; sometimes it ceases itself, or is cured by medical aid; more frequently it passes over into other kinds of insanity, or into bodily diseases, as dropsy of the chest, consumption, dropsy in the head, apoplexy, etc. It is said that melancholy people

rarely suffer from the gout, or are attacked by epidemic diseases. Several physical causes are enumerated, as inducing it, particularly a superfluity of black bile. Various derangements in the physical system tend to occasion it, as debility of the nerves, violent flow of the blood to the heart, superfluity of thick blood, etc.

TREATMENT.

The man who becomes a maniac is but a mere blank in society—nay, worse—for sometimes his nearest friends and bosom companions are in imminent danger from his ravings. Within half a century, much has been done by the philanthropist in alleviating his forlorn situation; asylums have been erected; the State has contributed means to render him comfortable; the best regimen and management have been adopted to restore him to his right reason; and it is a pleasing reflection that in many instances these means have had a most salutary influence, and sometimes the insane is restored to his friends. While all these philanthropic institutions have been progressing, it is with much satisfaction we reflect that something has been done by our remedies for the benefit of this distressed class of people. A number of individuals (under circumstances of confirmed madness) have been brought to the enjoyment of sound health and reason, by our preparations alone, without the aid of other agents. Whatever may have been the producing cause of mental derangement, it will not be denied that the derangement of the nervous system is the cause of a continuation of the complaint. In all cases which have been treated by our remedies, just so soon as the nerves were restored to a healthy state, so soon reason has reassumed her empire. For the accomplishment of this object we have prepared a number of medicines which are admirably adapted to the restoration of those organs. Our Nerve Liniment, Vegetable Syrup, Nerve Sanative, Essence of Life, and Pectoral Tincture, are all adapted to the complaint, and can be made use of in various stages of the disease, with the most decided advantage.

These remedies are well adapted to the cure of those diseases which are generally attendant on a deranged state of the nerves; and it would be in vain to attempt to restore the nerves to soundness, while the cause which produced their derangement remained in the system. A peculiarly pleasing incident has thus far attended the administration of our remedies in cases of insanity. The relief they have gained, has been so readily manifest that on a recovery of their senses, the patients thus afflicted have become attached to the medicine, and in some instances have refused to be further treated by any other remedies.

The shaving of the head and applying the Nerve Liniment to the same, to the neck, and in the ears, with the usual course of administering our remedies, as laid down in this work, is all that is necessary to be said to render the treatment successful by a physician of intelligence.

HYPOCHONDRIASIS.

THIS is one of the most troublesome diseases. Its seat is in the abdomen, particularly under the short ribs; but when it has increased to a certain degree, it manifests itself in the most various ways, in the whole body, as there are few diseases of which the hypochondriac does not at some time or other complain. He feels a pressure on the right side, and thinks it is owing to a complaint of the liver; he has pains in the breast, and immediately apprehends inflammation of the lungs; his head feels heavy, and nothing is more certain than an approaching apoplexy; he sees specks before his eyes, and a cataract is unavoidable; if the heart beats stronger than usual, a polypus in that organ is probable; and an unimportant pimple becomes the indication of inveterate ulcers; and so on. All these effects of the disease are explicable from its nature, seat, and causes. Hypochondria is a disturbance of the functions of the nervous system of the abdomen. Hence, the

sensibility of the nervous system is morbidly heightened, but its power of action lessened. At the same time, the separation between the nervous system of the abdomen and that of the brain is rendered less complete, so that certain feelings reach the brain, and thus affect the thoughts much more than in a state of health. The disturbance in the functions of the abdominal nervous system, produces next a weakness and disturbance in the digestion, which generally produces the first and most numerous attacks of hypochondria, from which all the others originate, in proportion as the morbid sympathy extends over the whole body. Hence, first is produced spasmodic contractions under the short ribs, sometimes on one side, sometimes on the other, sometimes in the pit of the stomach; torpidity of the bowels, flatulency, inflammation of the abdomen, want of appetite, increased pressure, and generally disagreeable feelings after eating. In the progress of the disease, a slow and somewhat difficult inspiration comes on, indescribable anxiety, and pain and giddiness in the head. Also, when the stomach is empty, this organ sometimes suffers pain and sickness, and vomiting takes place. For moments, particularly after digestion is finished, the hypochondriac feels easy, well, and serene; but all at once, the old complaints seize again upon their victim. The disturbance of the nervous system also has, as well may be conceived, a great influence upon the mind, and humor of the patient. Sometimes he is melancholy, sometimes gay to an excess. Uninterruptedly occupied with the state of his body, he takes notice of every feeling, and wishes to have every trifling pain explained, considering every one as a symptom of a serious disease. For everything he wants physic. In the hours of anxiety, hypochondriacs are constantly in dread of death. Sometimes anxiety attacks them so suddenly, that they must jump up, and cannot find quiet anywhere. Sometimes memory leaves them, so that they cannot think of their name. In the midst of the most serious conversation, nay, even of prayers, the most ludicrous ideas or images strike them. Others, all at once, feel a desire to perform the strangest actions,

from which they can restrain themselves only with great difficulty.

This deplorable disease may be occasioned by any circumstances which disturb the functions of the abdominal nervous system, heighten its sensitiveness, debilitate digestion, and lessen the separation of the reproductive nervous system from the sensitive. Among the chief causes, are great exertions of the mind in studying, a sedentary or dissipated life, excesses in exciting liquors, particularly coffee; also, want of exercise of the physical and mental powers, producing *ennui*. Hypochondria is, physically considered, not a dangerous disease. It is true, the genuine hypochondriac believes, at least for six days in every week, that his hour is come. He passes a wretched existence, and is a real torment to his family and physician.

Hypochondria can be cured but slowly. A hypochondriac must abstain from much physic, but the difficulty is to persuade him to do so. He would often rather take ten medicines than one. He ought to avoid sensual indulgencies, but his irritated nerves refuse obedience to duty. He ought to master his feelings, but the body has become the governing power. He ought to take much exercise, but his indolence finds continual excuses for omitting it. He ought to observe a strict diet for years, and confidently follow the directions of his physician, but he is impatient to be cured immediately, and his most solemn promises are forgotten in a week. He would have ten physicians at once, not to follow their advice, but to quarrel with all, and to tell them that they know nothing of his case. Thus it happens that a hypochondriac is seldom entirely cured, but, after having suffered for years, he dies of some additional disease; or in very advanced age, when the irritability of the nerves is lessened, the disease still appears.

TREATMENT.

It would be in vain to point out any one mode of treating the above complaint, as it is questionable whether the patient

would be persuaded to pursue a regular course of treatment, for even one week.

It is sufficient here to remark that the complaint is a nervous affection, affecting the whole system, to a certain extent. We will remark further, for the benefit of those thus afflicted, that our Nerve Liniment, Vegetable Syrup, Nerve Sanative, Essence of Life, and Pectoral Tincture, are all invaluable remedies, and, if used according to directions, and persevered in, will restore the nerves to strength and vigor, and a cure will be the result.

HYSTERICIS,

ARE, with women, nearly the same as hypochondriasis with men; the difference which really exists, arising from the peculiar character and constitution of women. This disease arises from a morbid excitement of the nervous system, and manifests itself by great uneasiness, unusual susceptibility, occasioning great trouble, often from imaginary causes, and affecting the sufferer even to tears. To these is added the sensation of a ball mounting from the abdomen, and particularly from the pit of the stomach, where the most important nerves concentrate, and occasioning a feeling of strangulation. From the greater susceptibility in the system of women, these affections are more universal, and appear quicker in other parts of the body, particularly in the muscles, than in men. Hence spasms of various kinds, contractions of the neck, pains in the head, fainting fits, palpitation of the heart, appear very frequently, and are sometimes so severe, that persons afflicted with them seem to be dying.

These complaints were once ascribed to vapors arising from the stomach, and were called by that name. They were once very fashionable among the ladies. Women of a delicate habit, and whose nervous system is extremely sensible, are the most subject to hysterical affections; and the habit which pre-

disposes to these attacks, is acquired by inactivity and a sedentary life, grief, anxiety, and various physical disorders. They are readily excited, in those who are subject to them, by strong emotions, especially if sudden. Hysterical complaints are best prevented, by a judicious care of the moral and physical education of girls. Men of uncommon nervous sensibility, are sometimes subject to disorders not essentially different.

TREATMENT.

Much less charity has generally been extended to those affected by this complaint, than we ought to bestow. It is evidently an affection of the nervous system, and whenever that system is restored to sound health, the patient becomes invigorated, and enjoys good health. Our preparations for nervous affections are abundantly competent to master this disease.

1st. The Pectoral Tincture may be taken, in small doses, as an alterative.

2d. The Essence of Life, in cases of fainting, is of great service.

3d. Sometimes it may be necessary to administer our Nerve Sanative, diluted in warm water, in two drop doses, twice a day.

4th. The Nerve Liniment ought to be applied on the top of the head, behind the ears, and on the neck, at least once a day, and a plaster should be worn on the breast constantly.

5th. If the feet be constantly cold, as is the case in some instances, the Stimulating Liniment should be applied to the bottoms of the feet once a day.

Much attention should be paid to keeping the bowels in order, and the most simple diet should be adopted.

Those few cases of this complaint which are not caused by other forms of disease, are treated of in another part of this work.

DEPRESSED STATE OF THE MIND.

NOTWITHSTANDING the uncharitableness of the world at large, for those who are afflicted with low spirits, we aver it to be a disease, occasioned principally by indigestion. Some writers believe the seat of the disease to be confined to those particular regions of the abdomen called hypochondriac, which are situated on the right and left side of the cavity, whence comes the name of hypochondriasis.

The common symptoms are, acid eructations; flatulency in the stomach or bowels; spasmodic pains; costiveness; giddiness; dimness of sight; listlessness, and often unable to fix the mind on any thing which requires vigor of thought. The mind becomes fretful, dejected, and desponding, accompanied with a total derangement of the nervous system. The mental feelings and peculiar ideas that haunt the imagination, and overwhelm the judgment, exhibit an infinite diversity. The wisest and best men, who have led a sedentary life, are as subject to the affliction, as are those of the other sex, who generally possess fine talents, but are thus unfortunate by reason of a general derangement of their system.

The causes of the complaint are, severe study, protracted to a late hour at night, in a cold room; a sedentary life; dissolute habits; excess of eating and drinking; use of mercury; suppression of habitual discharges, or long continued eruptions; debility of the organs within the abdomen, etc. The symptoms vary much in different patients. Whoever leads a sedentary life, and neglects to keep the feet warm, is sure to be afflicted with some or all of the above symptoms; and as a preventive, we would recommend the putting of half a teaspoonful of cayenne into each stocking, daily. This will give action to the system, and prevent much of the evil very properly ascribed to cold feet.

TREATMENT.

The principal object is to remove obstructions, restore the digestive powers, and brace up the nervous system to a healthy action. These objects can more readily, and with greater certainty, be effected by the application of our external remedies, than by any other practice of which we have a knowledge. Our first object is to relieve the nervous affection, by which all gloomy apprehensions will subside, and the patient's confidence in a cure will be much strengthened.

1st. Apply the Liniment for Nervous Affections on the top of the head, on the neck, the whole length of the spine, the inside of the arms, thighs, and legs; and if there be palpitations, apply the same over the region of the breast; at the same time, apply the Stimulating Liniment, on plasters, to the bottoms of the feet. This ought to be regularly repeated two or three times a day, until the nervous system is relieved. In addition to the above, the patient ought to take the Nerve Sanative and Essence of Life.

2d. Apply the Stimulating Liniment, on a plaster, to the breast; renew it once or twice a day, as the urgency of the case may require. This application will regulate the stomach with more certainty than the exhibition of an emetic, as relief is gained without any of the evil consequences generally attendant, in such cases, by the exhibition of large doses of strong medicine internally. Sometimes we find much advantage in giving the Diaphoretic Drops. Apply bricks to the feet, and cause a free perspiration. In some cases, the Pectoral Tincture taken in three drop doses, on loaf sugar, has produced a salutary effect; and in a very few instances have we found it necessary to increase the dose to twenty drops, so as to cause vomiting. The Vegetable Syrup is an excellent remedy. The washing off the surface of the body in soap suds and weak lye, or salt and water, will be found advantageous in this complaint. We also make free use of tonic bitters—eat easily digested food—exercise on horseback is serviceable—and keep from exposures to a moist atmosphere.

CHAP. V.

DIARRHEA, OR LOOSENESS.

DIARRHEA consists in copious discharges of feculent matter by stool, accompanied by griping, and often, at first, by slight vomiting, but unattended either by inflammation, fever, or contagion. The presence of these, with tenesmus, (a continual inclination to go to stool without a discharge,) and an evacuation of blood and purulent mucus, with hardened balls or scybala instead of natural fæces, which prevail in dysentery, will always enable the practitioner readily to distinguish the two diseases from each other. It is to be distinguished from cholera morbus by the discharges not being very bilious, and also by there being no vomiting of bile.

In diarrhea, there is evidently a morbid increase of the peristaltic motion, which morbid increase is the effect of a variety of causes, applied either to the body in general, or acting solely on the parts affected. Of the former, may be noticed the application of cold to the surface of the body, so as to give a check to perspiration, and thereby determine the flow of blood more to the interior parts; as likewise passions of the mind, and certain diseases, as dentition, retrocedent gout, and rheumatism, fever, etc. Of the latter, may be enumerated, first, matters taken into the stomach, and acting either from their quantity, as in the case of overcharging the organ; or from their nature, on the state of the stomach itself, producing fermentation, as acid fruits, or oily and putrid substances, and purgative medicines. Secondly, matters generated in the body, and thrown into the intestines; acrid bile, pancreatic juice, purulent matter, water in dropsy, worms, etc. Thirdly, mucous matter, poured from the mucous folli-

cles of the intestines themselves, in consequence of an increased excretion, and producing what is known by the name *diarrhea mucosa* (from *mucus*). In diarrhea, each discharge is usually preceded by a murmuring noise and flatulence in the intestines, together with a sense of weight and uneasiness in the lower part of the belly; which cease on the discharge taking place, but are again renewed before the one which is to succeed ensues.

The appearance of the stools is various; sometimes they are thinner than natural, from the admixture of a larger quantity of fluid, poured out by the exhalents of the intestines, than common; sometimes they are slimy, and sometimes they are green, when first discharged; sometimes they are evacuated of a yellow color, but become green on exposure to the air; and now and then they are of a dark brown color, and very fetid.

As the disease advances, the stomach becomes affected, and sickness, nausea, and vomiting, occasionally prevail; the countenance turns pale, and the skin becomes dry and rigid. If it continue for any length of time, universal emaciation, dropsy of the lower extremities, and relaxation of every part, ensue, together with a great loss of strength. Dissection in cases of diarrhea which have terminated fatally, have shown, that where it prevailed as a primary disease, ulceration of some portion of the intestines is the morbid change most usually met with; in which cases, the inner membrane is often abraded for a considerable extent, and its muscular coat laid bare. They have likewise shown, that the follicular glands are the most frequent seat of such ulcerations, and that they frequently become cancerous, and assume the same appearance as scirrhus and cancer in other parts.

TREATMENT.

In all cases of the above disease, the Cholera Morbus Liniment is an invaluable remedy. If the patient be severely attacked, let the Liniment first be used on the abdominal region, after which, spread a flannel cloth over the same, and use a

warm flat-iron gently over the belly: this course will impart warmth, and greatly facilitate the absorption of the Liniment; and just so soon as it is absorbed, temporary relief will be gained. In cases where discharges of blood occur, a tea made of smart weed, administered to the patient warm, will be of service. If the evacuations be hard and in little balls, a gentle cathartic may be given. If flatulency ensue, take freely of our Essence of Life. If the stomach be nauseated, apply very freely to the same our Stimulating Liniment; after which the Pectoral Tincture may be taken in nauseating doses, to cause vomiting.

CHOLERA MORBUS.

CHOLERA MORBUS is a purging and vomiting of bile, attended with anxiety, painful gripings, spasms of the abdominal muscles, and those of the calves of the legs. There are two species of this genus: 1. *Cholera spontanea*, which happens, in hot seasons, without any manifest cause. 2. *Cholera accidentalis*, which occurs after the use of food that digests slowly, and irritates. In warm climates it is met with at all seasons of the year, and its occurrence is very frequent; but in England, and other cold climates, it is most prevalent in the middle of summer, particularly in the month of August; and the violence of the disease has usually been greater in proportion to the intenseness of the heat.

It usually comes on with soreness, pain, distention, and flatulency in the stomach and intestines, succeeded quickly by a severe and frequent vomiting, and purging of bilious matter, heat, thirst, a hurried respiration, and frequent, but weak and fluttering pulse. When the disease is not violent, these symptoms, after continuing for a day or two, cease gradually, leaving the patient in a debilitated and exhausted state; but where the disease proceeds with much violence, great depression of strength ensues, with cold, clammy sweats, considerable anxiety, a hurried and short respiration, and hiccoughs, with

a sinking and irregularity of the pulse, which quickly terminate in death, an event that not unfrequently happens within the space of twenty-four hours.

The appearances generally observed on dissection, are a quantity of bilious matter in the *primæ viæ*; the ducts of the liver relaxed and distended. Several of the viscera have been found, in some cases, displaced, probably by the violent vomiting. In the early period of the disease, when the strength is not much exhausted, the object is to lessen the irritation, and facilitate the discharge of the bile, by tepid demulcent liquids, frequently administered. It will likewise be useful to procure a determination to the surface, by fomentations of the abdomen, by the foot bath, or even the warm bath. When the urgent symptoms are relieved, the strength must be restored by gentle tonics, as the aromatic bitters, calumba, and the like, with a light nutritious diet: strong toast and water is the best drink. Exposure to cold must be carefully avoided. The abdomen and the feet, particularly, must be kept warm, and great attention is necessary to regulate the bowels, and procure a regular discharge of bile, lest a relapse should happen. It will also be proper to examine the state of the abdomen, whether pressure gives pain at any part, because inflammation in the *primæ viæ* is very liable to supervene, often in an insidious manner.

TREATMENT.

Cholera Morbus has uniformly been successfully treated in the following manner, varying the treatment as the circumstances of the case may require.

1st. Apply our preparations for fever, and cause a free perspiration therewith. At the same time, apply the Cholera Morbus Liniment on the abdomen, and low on the back—repeat until relief be gained.

2d. If the patient be troubled with flatulency, let there be repeated doses of the Essence of Life administered.

3d. Bathe the feet and legs in warm water, wipe dry, and apply the Liniment to them freely.

4th. If relief be not directly obtained, immerse the patient in a saline bath.

5th. If the stomach remain irritable, let the Stimulating Liniment be applied to the pit of the stomach, and continue friction thereto for a considerable length of time, for just so soon as the Liniment is absorbed, the irritation of the stomach will subside.

6th. Should there be an appearance of inflammation of the bowels, a most powerful and continued application, for a long time must be applied thereto, with friction of the hand.

7th. Let the patient be supported by the use of tonics. The diet should be simple, and of easy digestion, and exposures to the influence of sudden cold should be avoided.

The course above recommended, uniformly reduces the spasmodic affections, causes a free perspiration, determines the disease to the surface of the body, causes a reaction to take place, and in a very short time the patient is out of danger.

COLIC.

THE appellation of *colic* is commonly given to all pains in the abdomen, almost indiscriminately; but, from the different causes and circumstances of this disorder, it is differently denominated. When the pain is accompanied with a vomiting of bile, or with obstinate costiveness, it is called a *bilious colic*; if *flatulency* cause the pain, that is, if attended with temporary distention, relieved by the discharge of wind, it takes the name of *flatulent* or *windy colic*; when accompanied with heat and inflammation, it takes the name of *inflammatory colic*. When this disease arises to a violent height, and is attended with obstinate costiveness, and an evacuation of fæces by the mouth, it is called *passio iliaca*, or *iliac passion*. Doctor Cullen enumerates seven species of colic. One of the most important is the *colica pictonum*. This is called, from the places where it is endemial, the *Poictou*, the *Surinam*, the *Devonshire colic*; from its vic-

tims, the *plumbers'* and the *painters' colic*; from its symptoms, the *dry belly-ache*, the *nervous* and *spasmodic colic*. It has been attributed to the poison of lead, and this is undoubtedly the cause, when it occurs to glaziers, painters, and those employed in lead works; but though this is one, it is by no means the only cause. In Devonshire, it certainly more often arises from the early cider, made of harsh, unripe fruit; and in the West Indies, from new rum.

The characteristics of this disease, are obstinate costiveness, with a vomiting of an acrid or porraceous bile, pains about the region of the navel, shooting from thence to each side, with excessive violence, strong convulsive spasms in the intestines, and a tendency to a paralysis of the extremities. It is occasioned by long-continued costiveness; by an accumulation of acrid bile; by cold, applied either to the extremities, or to the belly itself; by a free use of unripe fruits; and by great irregularity in the mode of living. From its occurring frequently in Devonshire, and other cider countries, it has been supposed to arise from an impregnation of lead received into the stomach; but this seems to be a mistake, as it is a very prevalent disease in the West Indies likewise, where no cider is made, and where there is only a very small quantity of lead in the mills employed to extract the juice from the sugar canes. One or other of the causes just enumerated, may justly be said always to give rise to this species of colic.

The dry belly-ache is always attended with some degree of danger, which is in proportion to the violence of the symptoms, and the duration of the disease. Even when it does not prove fatal, it is too apt to terminate in palsy, and to leave behind it, contractions of the hands and feet, with an inability in their muscles, to perform their office; and in this miserable state of existence, the patient lingers out many wretched years.

TREATMENT.

The colic has been treated, in all its various forms, by our remedies, with the most decided success. Our medicines are

peculiarly adapted to meet all the exigencies which occur in this disease.

If the patient be threatened with inflammation in the bowels, our Stimulating Liniment is a powerful remedy.

If flatulency supervene, the Essence of Life may be administered.

In cases of spasms, and nervous affections, the Nerve Sensitive and Nerve Liniment will afford relief.

The bilious affection may be removed, by nauseating doses of the Pectoral Tincture.

For costiveness, gentle cathartics may be administered.

In very severe cases, it is always more safe to apply the Liniment over the whole body at first, and administer Diaphoretic Drops, and cause a profuse perspiration; and just so soon as the sweating process commences, the patient is out of danger.

DYSENTERY.

THIS disease is said to be a contagious fever, the distinctive features of which are, frequent, griping stools; tenesmus; stools chiefly mucus, sometimes mixed with blood, the natural fæces being retained, or voided in small, compact, hard substances, attended by loss of appetite, and nausea.

It occurs chiefly in summer and autumn, and is often occasioned by moisture succeeding quickly intense heat or great drought, whereby the perspiration is suddenly checked, and a determination made to the intestines. It is also occasioned by unwholesome and putrid food, and by noxious exhalations and vapors; hence it makes its appearance in armies encamped in the neighborhood of low and marshy grounds, and proves highly destructive; but the cause which most usually gives rise to it, is said to be a specific contagion; and if it once makes its appearance where large numbers of people are collected together, it frequently spreads with great rapidity. A peculiar state of the atmosphere sometimes gives rise to the

dysentery, in which case it prevails epidemically. It generally occurs about the time of the autumnal intermittent and remittent fevers, and with them it is often complicated. It is more prevalent in warm, than in cold climates, and in the rainy seasons of the year it frequently breaks out and becomes fatal, in the West Indies.

An attack of dysentery is sometimes preceded by loss of appetite, costiveness, flatulency, sickness at the stomach and vomiting, and comes on with chills, succeeded by heat in the skin and frequency of the pulse. These symptoms are generally the forerunners of griping, and increased evacuations, which afterwards occur. More or less fever usually attends the symptoms which have been described, throughout the whole disease, when there is an inclination to a fatal termination, and is either of an inflammatory or putrid tendency. In some cases, the febrile state entirely disappears after a time, while the proper dysenteric symptoms will be of long duration: hence the distinction into acute and chronic dysentery. When the symptoms run high, produce great loss of strength, and are accompanied with a putrid tendency and a fetid and involuntary discharge, the disease often terminates fatally in the course of a few days. But when they are more moderate, it is often protracted to a considerable length of time, and is removed by a gentle perspiration diffused equally over the whole body; the fever, thirst, and griping, cease, and the stools become of a natural color and consistence. When the disease is of long standing, and becomes habitual, it seldom admits of a cure; and in consumptive cases, and persons whose constitutions are broken down, it almost always proves fatal.

TREATMENT.

In no disease whatever, is the saline bath of more importance, than in the dysentery; it ought to be made use of frequently; after which, make a full application of the Fever Liniment over the body, taking at the same time Diaphoretic Drops, and applying heat sufficient to produce a free perspira-

tion. The saline bath will arrest all the inflammatory symptoms. A free use of the Liniment for Cholera Morbus, over the abdominal region, will cause a sudden reaction in that region, arrest the dysenteric symptoms, and readily relieve the patient from pain, and also from the uncomfortable sensation which usually attends this complaint in the region of the anus. After the disease is arrested, gentle physic and tonics may be resorted to, in order to perfect a cure.

Sometimes smart-weed tea has proven beneficial in this complaint.

CHAP. VI.

STONE, OR CALCULUS;

EVERY hard concretion, not bony, formed in the body of animals. The article *Calculus* treats of the variety and chymical composition of these concretions. We shall add here a few words respecting their probable origin, and the cause of this disease, in man.

These concretions originate, immediately, in a disturbance of the secretions; which disturbance may, perhaps, in most cases, be caused by a disordered condition of the juices, particularly of the blood, and a want of due assimilation. This may be supposed, because, in the complaints of the gravel and the gout, which frequently interchange, the digestion almost always suffers, and acid is found in the primæ viæ; also, because cattle often have biliary calculi in the spring, which disappear after they have fed for a time on green fodder. Calculi form themselves in those secreted fluids which contain many ingredients, and which have an inclination to assume a solid form, especially in such as are collected in particular receptacles (the gall bladder, and urinary bladder); and they have even been found in the salivary ducts. They consist of a nucleus and several surrounding coats, similar or various in their nature. Their component parts vary, according to the fluid in which they have been formed. They obstruct the passages, and prevent the discharge of the secreted fluids; they irritate the vessels in which they are contained, and thereby cause convulsions, pains, inflammations, and suppurations; they also affect, indirectly, other organs; namely:—the stomach, producing sickness and vomiting; the stones in the

bladder occasion itching in the glands of the genitals, pains in the loins, testicles, etc.

The most common calculi are, 1st, biliary calculi, often found in great numbers in the bile, sometimes in the liver, from the size of a pea to that of a hazel nut. They are dark brown, black, and usually polished on several parts of the surface, and generally occasion disease only when they move, and are very jagged. But in such cases, violent pains exist, which extend from the right side to the center of the body. They also sometimes cause periodical and obstinate jaundice. The convulsions and pains which they occasion, frequently require the application of particular medicines, to relieve the immediate suffering, besides those directed against the disease itself. The patient is often relieved from them by vomiting, or by stool.

2d. Urinary calculi are sometimes a kind of coarse sand, called *gravel*, which sinks immediately to the bottom of the vessel in which the urine is left. Sometimes they are real stones, of the size of a pea, of a walnut, or even of the fist. They are found either about the kidneys, and there cause pains, inflammation, and suppuration, or in the pelvis of the kidneys. In this case, from time to time, single stones pass into the bladder, with violent pains extending from the region of the kidneys downward or backward, and are carried off with the urine; or they originate in the bladder itself, where they often acquire a very considerable size. They cause pains in the region of the bladder, in the perinæum, and great suffering during the discharges of the urine. It often happens that this can be discharged only in certain positions, and drop by drop, with great pain; is slimy, smells offensively, and is mixed with blood and gravel. The examination by the catheter affords the most certain information respecting the existence of calculi, if, as sometimes happens, the stone does not lie inclosed (encysted) in a certain part of the bladder. To destroy urinary stones, internal means have been recommended; but they are little to be depended upon. If the stone in the bladder increases so much that it prevents entire-

ly the discharge of the urine, it is necessary to remove it by the knife (lithotomy), or by breaking it to pieces in the bladder (lithotrity). The operation of lithotomy may be performed in four different ways: 1st. By the apparatus minor, an operation described by Celsus, and very simple, requiring few instruments; whence the name. The operator introduces his middle finger and fore finger up the anus, and endeavors to bring the stone towards the neck of the bladder. He then cuts on the left side of the perinæum, directly on the stone. 2d. In the high operation, the bladder is opened on the opposite side, over the pubes. 3d. When the apparatus major is applied, the urethra is widened so much that forceps can be introduced, and the stone extracted. The name of apparatus major is used, on account of the number of instruments required. 4th. The lateral operation is generally considered as the safest and most effectual, and is the most common. Its object is to divide that part of the urethra which suffered extremely in the application of the apparatus major, from the means used to distend it; and as the lower side of the urethra cannot be divided far enough without the rectum being wounded, the cut is directed sideways: this is the reason of the name. Lately, the operation of cutting the bladder through the rectum, has been introduced.

LITHIASIS—GRAVEL AND STONE.

WE have many lengthy works on the pathology of this disease, by Eberle, Thomas, etc. But according to Leroy of Paris, he seems to differ somewhat from those medical gentlemen. He says:—"It is a general principle, that when the serosity is produced by matters excessively corrupted, it is always burning, or extremely heating. It is with that character it acts in the formation of the stone or gravel; it is, also, because those matters, in certain individuals, are composed of parts passive of stony or gravelly concretions, that there

united in the substance of the kidney, the serosity operates the nealing of a saline portion of the phlegm, which it finds there, and converts it into a semipurulent substance. A part of this gravel remains sometimes in the kidneys, but more generally it falls down into the bladder, through the ureters. When there, they reunite and form the stone, which is susceptible, with time, of acquiring bulk, more or less considerable. Sometimes several stones are formed, of different sizes, or if there is but one, there may be grains of sand, resembling salt or candy. The stone swims upon the urine, and presents itself at the neck of the bladder. This viscera begins its action, when full, to expel the excremental fluid. The course is stopped by the presence of the stone upon the neck of the bladder; it is what produces the pains felt. These pains are greatly increased by the repeated strokes of the stone against the nervous membrane, and by the acrimony, or the excessive heat of that fluid, and also by the superabundance of the urine, produced by the partial or total suppression of its course.

“The operation of *lithotomy* (the operation of cutting out the stone) succeeds well enough in drawing the stone out of the bladder; but it too often happens, that in the space of a year or two, another stone is formed; then another operation becomes necessary, and successively a third. This is naturally to be expected, since proper means had not been used to destroy the formative causes of that foreign body. As long as this measure is not taken, the same accidents will happen, and there will be danger at the time of the operation, or after. By means or cause of this complaint, the functions of the whole system are somewhat disordered; and before the operation of lithotomy takes place, the patient ought to be treated with emetics, purges, or clysters, until the system is completely cleansed from the adulterated state of the humors, and until the health be so much ameliorated, that the patient might say he is very well, save that incommodity. I would recommend the excellence of the operation of lithotomy.

“The benefit derived from the course of treatment above recommended, previous to the operation of lithotomy, is the

absence of fever, after the operation; the wound is not apt to come to suppuration, and is easily healed. After the operation of lithotomy, if the wound does not seem to heal, as it does when simple and recent, on a person in good health; if it becomes inflamed; if it runs much, and a long time; if fear is entertained that it may become ulcerated; if the health of the patient decreases; if the natural functions are out of order; in a word, if he is not, according to the picture of health, persevering in the above mentioned plan, cleansing the system is indispensably necessary. It is by strictly observing the appearance of the wound, that the attendant physician may know, whether he must, from time to time, repeat the course of cleansing the system. After the system is cleansed, we will give some remedies which may obviate the necessity of lithotomy; or I would recommend a trial, peradventure a cure may be performed by those simple remedies, without going through the painful operation. Take of weak lye, made from the hickory bark or wood; it must not be so strong as to irritate the mouth or throat, to cause them to be sore. For a dose, take one half gill, three times a day, before eating. The same must be injected into the bladder, by means of an instrument for that purpose, when the passage is stopped. In one hour, if this is not thrown off as urine, it must be pumped or drawn off, by means of an instrument or pump for that purpose, and then inject half a gill of sweet oil, in order to keep down inflammation, if any appears. This course, if persevered in, has seldom or never failed of giving relief."

It has been said by some, who were affected with the gravel and stone, that they have been cured by taking about a thimble full of fine gravel or sand from a boiling spring, three times a day, and using a tea of dwarf elder. Also, the expressed juice of smart weed, in doses of one table-spoonful, three times a day; this has been recommended by an Indian to a patient, when he was given up by the physician who attended on him, and when all remedies except lithotomy, had failed. Also, great relief has been obtained from the following:—take one pint of water-melon seeds, one pint of

burdock roots cut fine, half a pint of parsley seed, half a pint of sunflower seed, boiled in two quarts of water, down to one half. For a dose, take one half gill, three times a day. Or take scrub grass or rushes, make a strong tea, and drink freely. This has been known to perfect a cure, when the ordinary means had failed. Another; take one part of masterwort; five parts queen of the meadow; three parts Indian snake root; two parts smart weed—make a strong decoction, and drink freely three or four times a day.

CHAP. VII.

HEMOPTYSIS, OR SPITTING OF BLOOD.

THIS disease generally causes great alarm to the patient, and also to those around him. According to Cullen, it is characterized by coughing up florid or frothy matter, preceded usually, by heat or pain in the chest, irritation in the larynx, (or cavity behind the tongue,) and a saltish taste in the mouth.

This disease arises from five causes :

1st. From the fullness of the vessels.

2d. From some external violence.

3d. From ulcers corroding the small vessels.

4th. From calculus (or gritty) matter in the lungs.

5th. From the suppression of some customary evacuation.

This disease is readily to be distinguished from hematemesis (or vomiting of blood); for in vomiting of blood, it is thrown out in large quantities, and of a darker color, and more grumus, and mixed with the contents of the stomach; whereas, blood, proceeding from the lungs, is usually small in quantity, of a florid or fresh red color, and mixed with a little frothy mucus only. Spitting of blood arises, most usually, between the ages sixteen and twenty-five, and may be occasioned by any violent exertion, either in running, jumping, wrestling, singing loud, or blowing wind instruments, as likewise by wounds, plethora or full habit, weak vessels, hectic fever, coughs, irregular living, excessive drinking, or a suppression of some accustomed discharge, such as the menstrual or hemorrhoidal. Spitting of blood is not, however, always to be considered as a primary disease. It is often only a symptom; and in some disorders, such as pleurisies, peripneumonies (or inflammation in the lungs,) and in many fevers,

often arises, and is the presage of a favorable termination. Sometimes it is preceded, as has been already observed, by a sense of weight and oppression at the chest, a dry tickling cough, and some slight difficulty of breathing. Sometimes it is ushered in with shiverings, coldness at the extremities, pains in the back and loins, flatulency, costiveness, and lassitude.

The blood which is spit up, is generally thin, and of a florid red color, but sometimes is thick, and of a dark and flat cast. Nothing, however, can be inferred from this circumstance, but that the blood has lain a longer or shorter time in the breast, before it was discharged.

An hemoptoe, or spitting of blood, is not attended with danger, where no symptoms of pulmonary consumption have preceded or accompanied the discharge, or where it leaves behind no cough, dyspnœa, or other affections of the lungs; nor is it dangerous in a strong, healthy person, of a sound constitution; but when it attacks persons of a weak, lax fibre, and delicate habit, it may be difficult to remove it. It seldom takes place to such a degree, as to prove at once fatal; but when it does, the effusion is from some large vessel. The danger, therefore, will be in proportion as the discharge of blood comes from a large vessel or small one. When the disease proves fatal, in consequence of the rupture of some large vessel, there is found, on dissection, a considerable quantity of clotted blood in the lungs, and there is usually more or less of an inflammatory appearance, at the ruptured part. Where the disease terminates in pulmonary consumption, the same morbid appearance is to be met with, as described under that particular head. In this hemorrhage or discharge, which is mostly of the active kind, such diet as will keep down inflammation, must be strictly observed, particularly avoiding heat, muscular exertion, and agitation of the mind, and restricting the patient to a light, cooling, vegetable diet. Acidulated drink will be useful, without taking much liquid to quench thirst. Where the blood has been copiously discharged, but no great quantity lost already, it will be proper

to attempt checking it, if the habit will allow; but where there has been much loss of blood, and a low pulse, this measure should not be attempted.

TREATMENT.

From whichever of the causes named in this article, the spitting of blood may originate, it is readily relieved by the use of our Vegetable Syrup and Essence of Life, and by a full application of our Stimulating Liniment over the whole body. The Liniment causes so free an action of the blood, as to relieve the oppressed blood-vessels. Sometimes it may be necessary to administer small portions of alum; and here let it be observed, that if the bowels become costive, it is important to administer gentle cathartics. It is sometimes difficult to distinguish this complaint from incipient pulmonary affections, to which it has a natural tendency. Whenever this be the case, the course of treatment recommended in consumption, will be advisable.

HEMORRHAGE;

A **FLUX** of blood from the vessels which contain it, whether proceeding from a rupture of the blood-vessels, or any other cause. Hemorrhages produced by mechanical causes, belong to surgery; those produced by internal causes, to medicine. The cutaneous system is rarely, and the cellular and serous systems are never, the seat of hemorrhages; that of the mucous membrane is the most subject to them.

The symptoms of disease are not less various than its causes and its seats, and the treatment must of course be adapted to all the different circumstances. A hemorrhage from the lungs, is called hemoptysis; from the urinary organs, hematuria; from the stomach, hematemesia; from the nose, epistaxis.

TREATMENT.

An important object to be gained, in hemorrhage, whatever may be its form, is to determine the circulation of the blood from the weakened or affected organs; or, in other words, to restore an equilibrium of the circulation of the blood. This is effected by a general application of our Stimulating Liniment, accompanied by astringent remedies. Hemorrhage of the lungs is explained, and the treatment thereof, in another part of this work. The same remedies will apply, generally, with but little alterations in the application of them.

HEMATURIA, OR VOIDING OF BLOOD
BY URINE.

THIS disease is sometimes occasioned by falls, blows, or bruises, or some violent exertion, such as hard riding, and jumping. But it usually arises from a small stone lodged in the kidney or ureter, which, by its size or irregularity, wounds the inner surface of the part it comes in contact with; in which case, the blood discharged is, most usually, somewhat coagulated, and the urine deposits a sediment of a dark brown color, resembling the grounds of coffee. A discharge of blood by urine, when proceeding from the kidney or ureter, is commonly attended with an acute pain in the back, and some difficulty of making water; the urine which comes away first, being muddy, and highly colored; but towards the close of its appearance, when the blood comes immediately from the bladder, it is usually accompanied with a sense of heat, and pain at the bottom of the belly. The voiding of bloody urine is always attended with some danger, particularly when mixed with purulent matter. When it arises in the course of any malignant disease, it shows a highly putrid state of the blood, and always indicates a fatal termination. The appearances to

be observed on dissection, will accord with those usually met with in the disease which has given rise to the complaint.

When hematuria, or voiding of blood by urine, proceeds from a stone in the ureter, (the urinary canal between the kidney and the urinary bladder,) it is only to be cured by removing the cause; but as this may not always be practicable, we must then be content to moderate the symptoms, by giving the patient plentifully to drink of thick barley water, solutions of gum acacia, or a decoction of marsh mallows, sweetened with honey, joined with refrigerants. When hematuria is symptomatic of some malignant disease, as putrid fever, etc., powerful antiseptics must be given.

TREATMENT.

We cured a case of voiding blood by urine, in a patient of eighty years of age, which had been of long standing. He had served as a soldier in the revolution; habits rather intemperate; had undergone much hardship from indigence, and his constitution was almost destroyed. We adopted the following treatment:—

1st. Applied a plaster of our Stimulating Liniment to his back, and rubbed the same on his loins and lower extremities, regularly, twice a day.

2d. The Vegetable Syrup, and Essence of Life, were administered three times a day.

3d. A decoction of sumach and dried peach leaves, made strong, was given as a common drink.

4th. We kept his bowels regular by gentle physic.

5th. We applied our Cerate, the length of the urethra, regularly, once a day.

By this method, and by these means alone, he was relieved immediately, and in twelve days the complaint was subdued; since which (more than six months ago) he has remained in good health. We found no difficulty in mastering the complaint without recourse to blood-letting.

HEMORRHOIDS, OR PILES.

A **FLUX**, or flow of blood. Until the time of Hippocrates, this word was used, conformably to its etymology, as synonymous with hemorrhage. It was afterwards used in a narrower sense, to indicate the flux of blood from the extremity of the rectum, and in some other cases which were considered analagous to it; thus we hear it applied to the flow of blood from the nostrils, the mouth, the bladder, and the matrix. It is at present used to signify a particular affection of the rectum, although the disease is not always attended with a flux; in this sense, it is also called *piles*.

Certain general causes may produce a predisposition to this disease; in some cases, it appears to be the effect of a hereditary disposition. In general, it manifests itself between the period of puberty and old age, although infants and aged people are not entirely exempt from its attacks. The bilious temperament seems to be more exposed to it than any other. Men are oftener afflicted with it than women, in whom it is sometimes produced by local causes. It often shows itself in subjects who pass suddenly from an active to a sedentary life, or from leanness to corpulency. Any circumstance which produces a tendency to, or stagnation of the blood at the extremity of the rectum, is to be reckoned among the local causes. The accumulation of fecal matter in the intestines; efforts to expel urine; the pressure produced by polypi; the obstruction of any of the viscera, especially of the liver; worms; the frequent use of hot bathing, of drastic purges, and particularly of aloes; long continuance in a sitting posture; riding on horseback; pregnancy; the accumulation of water by ascites;—such are some of the ordinary causes of hemorrhoids.

They are distinguished into several sorts, as, external, when apparent at the anus; internal, when concealed within the orifice; blind, or open; regular, or irregular; active, or passive;

periodical, or anomalous; etc. There is also a great difference in the quantity of blood discharged: it is usually inconsiderable; but, in some cases, is so great as to threaten the life of the subject. The quality, color, etc., of the blood, also differ in different cases. The number, seat, and form of the hemorrhoidal tumors, likewise present a great variety of appearances.

When the disease is purely local, we may attempt its cure; but in the greatest number of cases, it is connected with some other affection, or with the constitution of the subject. In these cases, if the tumors are not troublesome on account of their size, or if the quantity of blood discharged is not very considerable, the cure may be attended with bad consequences. The subject should avoid violent exercises; but moderate exercise will be found beneficial: the food should not be too stimulating or nutritious. Traveling, or an active life, should succeed to sedentary habits. The constipation, with which the subjects of this disease are liable to be affected, should be remedied by laxatives, or gentle purgatives. If bathing is used, it should be in lukewarm or cold water. Any thing which may be productive of a local heat, should be avoided; as warm seats, soft beds, too much sleep. If the sanguineous fluxion becomes excessive, particular care must be paid to regulating it. If the tumors acquire a considerable volume, surgical operations may become necessary. If any bad consequence result from the suppression of the hemorrhoids, care must be taken to give the blood the salutary direction which it had previously: this may be effected by the use of laxatives; baths, emetics, and fomentations.

TREATMENT.

In ordinary cases of piles, the application of our Pile Salve to, and up the anus, as far as the finger can reach, has proven successful, and hundreds have been cured readily by no other means. But when the stomach is diseased, the bowels constipated, and the patient has long suffered, tumors having formed on the anus which have proved troublesome, our course, in

addition to the above, has been, to apply our Stimulating Liniment to the breast, bowels, and low on the back, two or three times a day. We further administer our Vegetable Syrup and Alterative Drops; and when the Syrup is insufficient to regulate the bowels, we add to it, or give in other portions, some laxative medicine, in order to cause a regular passage. When the bowels have for a long time been costive, we find that our Laxative Liniment applied thereto, answers a better purpose than physic internally administered.

By following the above directions, no one need suffer long from this complaint.

CHAP. VIII.

QUINSY.

QUINSY: cynanche laryngea, or inflammation of the larynx. This complaint is very apt to prove mortal, especially to children, if proper and speedy remedies are not resorted to. It is of a local nature, is acute, and of a short duration, and affects the mucous membrane of the epiglottis or rima glottidis, (the epiglottis, or cartilage, is at the root of the tongue, and falls upon the superior opening of the larynx, or windpipe; the rima glottidis is the opening of the larynx, or windpipe, where the air passes out of the lungs,) probably both these parts; and in which there is a high degree of inflammatory action, occasioning impeded deglutition, with difficult respiration.

It is only of late that this fatal variety of sore throat has attracted the notice of practitioners, having been commonly confounded with croup. In many cases, there may, indeed, arise some difficulty of forming a just diagnosis; but the following peculiarities may greatly assist us: In quinsy, the symptoms are, an uneasy sensation in the larynx; difficult and painful deglutition; partial swelling of the fauces; a supervening and perpetually increasing difficulty of breathing, nearly amounting to a sense of suffocation, the voice being extremely hoarse, or reduced to scarcely audible whispers, attended with inflammatory fever. In croup, there is a difficulty of respiration, without any swelling of the fauces, or painful deglutition; the expirations, especially in coughing, are very shrill; but the fever in this is also inflammatory.

The usual cause of quinsy is exposure to cold, which ex-

cites an inflammatory determination to the membrane investing the larynx, or windpipe. It comes on with chilliness, succeeded by heat and fever, which are soon followed by a hoarseness and indistinctness of voice, laborious respiration, and pain, or, as it were, a stricture in the throat, threatening suffocation; the pulse quick and feeble; the eyes suffused with blood, and somewhat protruding; the countenance has a livid or swollen appearance; the tongue is furred; the tonsils, uvula, and pharynx, presenting a dark red appearance on inspection, and any attempt to swallow is attended with difficulty, and succeeded by excruciating pain. If the symptoms are not properly attended to, and subdued by an immediate application of active and proper means, the patient is destroyed by suffocation.

The morbid appearances observed on dissection of those who have died of this complaint, are as follows: The mucous membrane investing the epiglottis and margin of the glottis, is inflamed; serum is infused under it, or coagulated lymph on its external surface, by which the rima glottidis, or upper part of the windpipe, becomes narrowed, or actually closed. Sometimes there has been perceived an accumulation of mucus in the cells of the lungs, with a slight effusion of serum into their reticular texture. In some instances, the pleura has been found partially adhered, with more fluid in the cavities than is natural. To control and manage the disease with success, a timely and active employment of an appropriate treatment, is obviously necessary; and this must be directed to the subduing the local inflammation as quickly as possible. It frequently happens, that the stomach and bowels of patients affected with inflammation, are in a foul state; and in such instances, purgatives and emetics operate with peculiar benefit. When quinsy (inflamed or sore throat) first appears, a few applications of pounded onions, or garlic, has finally removed the disease, by giving some cathartic medicine to carry it off. When the glands and fauces of the mouth are much swelled and have an inflammatory appearance, and the patient feels great inconvenience in taking medicine by way of the ali-

mentary canal, as it often happens with children, prompt attention must be paid to the cathartic injections. Frequently, suppuration takes place, and a copious discharge of matter is thrown up by a violent fit of coughing, produced by an effort at deglutition. When suppuration exists, it might be advisable to excite vomiting, that the abscess may be ruptured, and the matter discharged by the mouth, as expeditiously as possible, and thereby prevent suffocation.

TREATMENT.

As at the first appearance of quinsy, the disease is principally situated in the neck and throat, relief is almost instantaneously given by an application of our Cough Liniment thereto, with warmth. After the Liniment is applied, wrap several thicknesses of flannel round the neck, and make a free use of the Stimulating Liniment to the bottoms of the feet and palms of the hands. In fact, an application over the whole body, causing free perspiration, will be found of essential advantage; at the same time, give the Pectoral Tincture, in portions which shall cause vomiting, and afterwards in small doses, as an expectorant. The sudden and sure relief which these remedies impart, will render venesection unnecessary: in fact, we would avoid the practice, by all means; as, just in proportion that the patient sustains a loss of blood, in the same proportion his strength will be diminished. Sometimes, in extreme cases, the saline bath will aid in affording relief.

CATARRH.

CATARRH; an increased secretion of mucus from the membranes of the nose, fauces and bronchia, accompanied by fever, and attending with sneezing, cough, thirst, lassitude, and want of appetite.

There are two species of catarrh, viz: *catarrhus a frigore*, which is very common, and is called a *cold in the head*; and

catarrhus a contagio, the influenza, or epidemic catarrh, which sometimes attacks a whole city. Catarrh is also symptomatic of several other diseases. It is seldom fatal, except in scrofulous habits, by laying the foundation of phthisis; or where it is aggravated by improper treatment, or repeated exposure to cold, into some degree of peripneumony; when there is hazard of the patient, particularly if advanced in life, being suffocated by the copious effusion of viscid matter into the air-passages. The epidemic is generally, but not invariably, more severe than the common form of the disease. The latter is usually left to subside spontaneously, which will commonly happen in a few days.

The bowels must be kept regular, and diaphoretics employed, with demulcents and pectorals, to quiet the cough. When the disease hangs about the patient, in a chronic form, gentle tonics and expectorants are required. In the epidemic catarrh, more active evacuations are often required, the lungs being more seriously affected; but though these should be promptly employed, they must not be carried too far, the disease being apt to assume the typhoid character, in its progress; and as the chief danger appears to be, that suffocation may happen, from the cause previously mentioned, it is especially important to promote expectoration.

TREATMENT.

In common cases of catarrh, when the head, neck, and throat only are affected, sometimes relief is obtained by an application of our Stimulating Liniment on the top of the head, behind the ears, and *in* the ears, on the back of the neck, and on the throat. But when the disease is more general, we, in addition, apply our Cough Liniment to the breast, and Stimulating Liniment to the feet, with warmth thereto. We also give the Pectoral Tincture, in doses to create vomiting, and after the stomach is emptied, it may be administered in small doses, as an expectorant. If there be pains in the chest of a chronic form, the Essence of Life may be given, together

with tonics and expectorants, and wear a plaster spread with the Stimulating Liniment, on the breast. If the disease assume an epidemic character, the most active evacuents ought to be administered, in addition to a full application of our remedies for fever.

With this course of treatment, no fears of suffocation need be apprehended, as, by calling into requisition all the avenues of evacuation, the system is just as sure of being immediately relieved, as that the means are applied.

HOOPING-COUGH.

HOOPING-COUGH; a disease known by a convulsive, strangling cough, with hooping, returning by fits, usually terminated by vomiting. It is contagious. Children are most commonly the subjects of it, and it seems to depend on a specific contagion, which affects them but once in their life. The disease being once produced, the fits of coughing are often repeated, without any evident cause; but, in many cases, the contagion may be considered as only giving the predisposition, and the frequency of the fits may depend upon various exciting causes, such as violent exercise, a full meal, the having taken food of difficult digestion, and irritation of the lungs by dust, smoke, or disagreeable odors. Emotions of the mind, may likewise prove an exciting cause. Its proximate or immediate cause, seems to be a viscid matter or phlegm, lodged about the bronchia, trachea, and fauces, which sticks so close, as to be expectorated with the greatest difficulty.

The hooping-cough usually comes on with a difficulty of breathing, some degree of thirst, a quick pulse, and other slight febrile symptoms, which are succeeded by a hoarseness, cough, and difficulty of expectoration. These symptoms continue, perhaps, for a fortnight or more, at the end of which time, the disease puts on its peculiar and characteristic form, and is more evident as the cough becomes convulsive,

and is attended with a sound, which has been called a hoop. The coughing continues, till either a quantity of mucus is thrown up from the lungs, or the contents of the stomach are evacuated by vomiting. On the first coming on of the disease, there is little or no expectoration, or, if any, it consists only of thin mucus; and, as long as this is the case, the fits of coughing are frequent, and of considerable duration; but, on the expectoration becoming free and copious, the fits of coughing are less frequent, as well as of shorter duration.

The disease, having arrived at its height, usually continues for some weeks longer, and at length goes off gradually. In some cases, it is, however, protracted for several months, or even a year. It is seldom fatal, except in very young children, who are always likely to suffer more from it, than those of a more advanced age. The danger seems, indeed, always to be in proportion to the youth of the person; and the degree of fever and difficulty of breathing, which accompanies the disease, as likewise the state of debility which prevails.

TREATMENT.

We apply our Cough or Stimulating Liniment freely to the neck and stomach, two or three times a day, and cover the parts, to keep them from the influences of the cold; at the same time, the Pectoral Drops are administered, as an expectorant, four or five times in twenty-four hours.

If febrile symptoms appear, our fever preparations may be applied once or twice, which will remove these symptoms.

It has been supposed by many, that this disorder could not be cured until it had run a considerable length of time. Nothing is farther from the fact. We have uniformly arrested the complaint, in one or two days after our first application.

RUBEOLA, OR MEASLES.

MEASLES, according the Cullen, are known by a hot fever, hoarseness, dry cough, sneezing, and drowsiness; about the

fourth day, eruptions, or small red points, discernable by the touch, which, after three days, end in mealy desquamation. In addition to the symptoms already related, it is remarkable that the eyes and eyelids always show the presence of this disease, being somewhat inflamed, and suffused with tears. The fever continues through the whole progress of the disease.

The measles may prevail at all seasons of the year, as an epidemic, but the middle of the winter is the time they are most prevalent; and they attack persons of all ages, but children are most liable to them. They prove most unfavorable to such as are of a plethoric habit. Like the small pox, they never affect persons but once in their lives. The contagion appears to be of a specific nature. The eruption is usually preceded by a general uneasiness, chillness, and shivering; pain in the head, in grown persons, but in children, a heaviness and soreness in the throat; sickness and vomiting, with other affections, such as happen in most fevers. But the chief characteristic symptoms are a heaviness about the eyes, with swellings, inflammation, and a defluxion of sharp tears, and great acuteness of sensation, in the eyes, so that they cannot bear the light without pain, together with a discharge of such serous humor from the nostrils, as to produce sneezing. The heat and other febrile symptoms increase very rapidly, to which succeeds a frequent and dry cough, a stuffing, great oppression, and oftentimes, retching to vomit, with violent pains in the loins, and sometimes a looseness. At other times there is great sweating, the tongue foul and white, the thirst very great, and, in general, the fever runs much higher than in the milder sort of the regular small pox. The eruptions appear about the fourth or fifth day, and sometimes at the end of the third. On the third or fourth day from their first appearance, the redness diminishes, the spots, or very small papulae, dry up, the cuticle peels off, and is replaced by a new one. The symptoms do not go off on the eruption, as in the small pox, except the vomiting. The cough and headache continue, with weakness and defluxion in the eyes, and a

considerable degree of fever. On the tenth or eleventh day no trace of redness is to be found, but the skin assumes its wonted appearance; yet, without there have been some considerable evacuations, either by the skin, or by vomiting, the patient will hardly recover strength, but the cough will continue, and the fever return with new violence, bringing on great distress and danger.

In the more alarming cases, spasms of the limbs, subsultus (or twitching of the tendons,) delirium, or, as more frequently happens, coma or drowsiness, supervene. This last symptom so frequently attends the eruptive fever of measles, that by some practitioners, it is regarded as one of its diagnostics. In measles, as in other febrile diseases, the symptoms generally suffer some remission towards morning, returning, however, towards evening, with increased severity. The measles, even when violent, are not usually attend with a putrid tendency; but it sometimes happens that such a disposition prevails, both in the course of the disease, and at its termination. In such cases, petechiæ, or spots like flea bites, are to be observed, interspersed among the eruptions, and these last become livid, or assume almost a black color. Hemorrhages break out from different parts of the body; the pulse becomes frequent, feeble, and perhaps irregular; universal debility ensues, and the patient is destroyed.

In those cases where there is much fever, with great difficulty of breathing, and other symptoms of pneumonic inflammation, or where there is great debility, with a tendency to putrescence, there will always be considerable danger. But the consequences attendant on the measles are, in general, more to be dreaded than the immediate disease, for, although a person may get through it, and appear, for a time, to be recovered, still hectic symptoms, and pulmonary consumption, may afterwards arise, and destroy him, or an ophthalmia may ensue.

Measles, as well as small pox, not unfrequently call into action, a disposition to scrofula, where such exists in the constitution. Another bad consequence of the measles is, that

the bowels are often left by them, in a very weak state, a chronic diarrhea remaining, which has sometimes proved fatal. Dropsy has also been known as a consequence of measles.

The morbid appearances to be observed on dissections of those who die of measles, are pretty much confined to the lungs and intestines, the former of which always show strong marks of inflammation, and sometimes a tendency to sphacelus, or mortification, where the patient, under the eruption, the trachea, and larger branches of the bronchia, as in the small pox, are often covered with it; which may account for the increase of the cough, after the appearance of the eruption.

TREATMENT.

Were it not for the serious, and sometimes fatal consequences attendant on an injudicious treatment of measles, it might be unnecessary to say more on this, than any eruptive febrile complaint. The great number of chronic complaints, the approximating cause of which, can be traced to measles, *badly managed*, would seem to impose on us a duty of particularizing the most successful treatment. We have known some instances of ten and fourteen years standing, where the measles but imperfectly appeared on the surface, or, after appearing, struck into the system, thereby entailing on the patient, consumption and dropsical affections; and where, by the application of our external remedies, they made their *re-appearance*, or caused an eruption similar to that of the measles, to spread over the whole surface of the body. To prevent such disastrous consequences, we have adopted the following treatment:

1st. We treat the complaint with our fever preparations, at its very first appearance. This course determines the disease to the surface of the body, and, if persevered in, will cause the eruptions on the skin to appear much sooner, than any other course that can be adopted. When the eruptions can be kept prominent on the surface there is no danger to

be apprehended. The above treatment will effectually secure this object.

2d. If the patient be afflicted with cough, apply the Cough Liniment freely to the throat and neck, which will effectually reduce the inflammatory affections of the bronchial tubes, and the cough will be relieved.

3d. If the stomach be oppressed, an emetic of Pectoral Tincture will relieve it.

4th. If the bowels be constipated, let a gentle cathartic be administered.

5th. If hemorrhage supervene, and a chronic diarrhea shall follow, a full use of our Cholera Morbus Liniment may be applied, taking, at the same time, smart-weed tea, as a common drink.

6th. If twitching of the limbs, spasms, coma, or a determination of the blood to the brain, take place, all our nerve preparations may be made successful agents in arresting this form of the complaint. Let it be remembered that, during all these various applications, the Liniments must not be lost sight of. They must certainly be applied; and their application renders your patient *safe*, and within your reach of restoration to perfect health.

Let this treatment be adopted, and we shall hear no more of the measles making a second appearance, fourteen years after their first.

PAROTITIS, OR MUMPS.

MUMPS is an inflammatory affection, capable of being propagated by a peculiar contagion, and occurring sometimes epidemically. The disease usually commences with slight febrile symptoms, with a feeling of stiffness of the jaws, and a swelling and pain in either one or both parotid glands. The swelling gradually increases until about the fourth day from the beginning of the disease, at which time the affected gland is greatly swollen, and very firm and tender to the touch. The

skin on the tumor is generally of a natural color, or but slightly inflamed, although in some instances a pale redness is diffused over the swelling. Mastication and deglutition (eating and drinking) are attended with considerable pain. The fever is generally mild, and is attended by a state of nervous irritability and restlessness. From about the fourth day, the swelling gradually subsides, until the delumescence is complete, which is generally about the seventh day. Soon after the inflammation of the parotids begins to decline, the breasts in females, and the testicles in males, often become much swollen, and hard. The subsidence of the disease is usually attended with more or less general diaphoresis or perspiration, and a red sediment in the urine.

In general, mumps is neither a severe, nor a dangerous affection, more especially when the patient keeps the affected parts moderately warm, and avoids exposing himself to the morbid influence of variable or low temperatures. In some instances, however, a sudden metastasis, or change of the inflammation, takes place to the brain, or the testicles, or the mammæ or breasts; and this is generally occasioned by the patient taking cold: when it passes to the brain, insensibility, coma, or furious delirium, usually supervenes, and death sometimes occurs in a few hours. Doctor Eberle tells us he has known a case of this kind terminate fatally in less than an hour, under a paroxysm of violent convulsions. When the disease thus suddenly falls on the testicles, and the case is not judiciously treated, suppuration of these parts may take place—an occurrence always exceedingly painful, and sometimes ultimately fatal. The inflammation or parotitis, however, has no tendency to terminate in suppuration; yet when circumstances favorable to this termination supervene, it does sometimes take place in the parotids, (or salivary glands, situated under the ear, the excretory ducts of which open in the mouth,) as well as in the external parts to which it may be transferred. Children, and young persons, are most liable to this affection; its occurrence in middle and advanced age

being very uncommon. It very rarely occurs more than once in the same individual, and resembles in this respect the other acute contagious maladies.

TREATMENT.

At the first commencement of the disease, it may be overcome without difficulty, by applying our Stimulating Lini-ment, about the fauces and neck, two or three times a day. It, however, is necessary to avoid exposure to cold. But if the groins, and the parts near thereto, become swollen and inflamed, our Vegetable Cerate ought to be applied, and the parts occasionally steamed with bitter herbs, or poulticed with a compound of slippery elm, blood root, and the bark of the root of willows. The application of a poultice of boiled white beans, is also recommended.

CROUP.

THIS is a disease which mostly attacks infants, who are suddenly seized with a difficulty of breathing and a crouping noise; it is an inflammation of the mucous membrane of the windpipe, inducing the secretion of a very tenacious coagulable lymph, which lines the air passages and impedes respiration.

The croup does not appear to be contagious, whatever some physicians may think to the contrary; but it sometimes prevails epidemically. It seems, however, peculiar to some families; and a child having been once attacked, is very liable to a return. It is confined to young children, and has never been known to attack a person arrived at the age of puberty.

The exposure to cold, seems to be the general cause which produces this disorder, and therefore it occurs more frequently in the winter and spring, than in the other seasons. It has

been said, that it is most prevalent near the sea-coast; but it is frequently met with in inland situations, and particularly those which are marshy. Some days previous to an attack of the disease, the child appears drowsy, inactive, and fretful; the eyes are somewhat suffused, and heavy; and there is a cough, which, from the first, has a peculiarly shrill sound: this, in the course of two days, becomes more violent and troublesome, and likewise more shrill. Every fit of coughing agitates the patient very much; the face is flushed, and swelled; the eyes are protuberant; a general tremor takes place, and there is a kind of convulsive endeavor to renew respiration, at the close of each fit. As the disease advances, a constant difficulty of breathing prevails, and the head is thrown back in the agony of attempting to escape suffocation. There is not only an unusual sound produced by the cough, but respiration is performed with a hissing noise, as if the windpipe was closed up by some slight, spongy substance. The cough is generally dry; but if any thing is spit up, it has either a purulent appearance, or seems to consist of films resembling portions of a membrane. Where great nausea and frequent retchings prevail, coagulated matter of the same nature is brought up. With these symptoms, there is much thirst, and an uneasy sense of heat over the whole body; a continual inclination to change from place to place, great restlessness, and frequency of the pulse. In an advanced stage of the disease, respiration becomes more stridulous, and is performed with still greater difficulty, being repeated at longer periods, and with greater exertions, until, at last, it ceases entirely.

The croup frequently proves fatal by suffocation, induced either by spasm affecting the glottis, or by a quantity of matter blocking up the air-passages; but when it terminates in health, it is by a resolution of the inflammation, by a ceasing of the spasms, and by a free expectoration of the matter exuding from the trachea, or of the crusts formed there. The disease has, in a few instances, terminated fatally within twenty-fours after its attack; but it more usually happens, that where it proves fatal, it runs on to the fourth or fifth day.

Where considerable portions of the membranous films formed on the surface of the trachea, are thrown up, life is sometimes protracted for a day or two longer than would otherwise have happened. Dissections of children who have died of the croup, have mostly shown a preternatural membrane, lining the whole internal surface of the upper part of the trachea, which may always be easily separated from the proper membrane. There is likewise usually found a good deal of mucus, with a mixture of pus, in the windpipe and its ramifications. As the inflammation is declining, it is very important that free expectoration should take place. This may be promoted by nauseating medicines, by inhaling steam, and by stimulating gargles, for which the decoction of seneca is particularly recommended. Where there is much wheezing, an occasional emetic may relieve the patient considerably; and under symptoms of threatening suffocation, the operation of bronchotomy has sometimes saved life. Should fits of spasmodic difficulty of breathing occur in the latter periods of the disease, pectorals, joined with diaphoretics, would be most likely to do good.

TREATMENT.

Of all the diseases which afflict our race, there are none which have carried devastation and death in their train with such unconquerable sway, among children and youth, as has the croup. The bills of mortality in our cities, warrant the above remark. So hard to overcome has been this disease, that many worthy physicians have abandoned the idea of saving even a plurality of their patients; and when the disease enters at our door, death appears to be ready to follow after. No one disease that has been treated with our remedies, has done more to establish the Iatroleptic treatment, than croup. Thousands of cases have been treated with our agents, and we have yet to hear of the first failure of complete success, where our remedies have been solely depended upon.

1st. We apply our Cough Liniment to the throat and neck, very freely, and cover the same with warm flannel.

2d. If the child can swallow, the Pectoral Tincture may be administered, in nauseating doses; and while this is going on, let some one prepare a warm bath, in which immerse the child, as soon as possible; and if the case be very severe, and spasms have commenced, we apply the Fever Liniment over the whole body, before being taken from the bath. This treatment will generally give so much action to the system, that he will be enabled to swallow.

3d. We then administer our Diaphoretic Drops, in doses of eight or ten drops, in warm water, once in ten minutes, until a proper perspiration takes place—during all this time, the throat and neck must not be neglected. Continued applications must be made thereto, which will soon remove the obstructions in the windpipe. After which, keep up the general treatment as circumstances may suggest.

With this course, the patient is safe. He recovers, by the use of tonics, without a diminution of strength, as is the case in venesection.

ENTERITIS.

ENTERITIS: inflammation of the intestines. It is known by the presence of fever, fixed pain in the abdomen, costiveness, and vomiting.

The causes are, acrid substances, indurated fæces, long-continued and obstinate costiveness, spasmodic colic, and a strangulation of any part of the intestinal canal; but another very general cause, is the application of cold to the lower extremities, or to the belly itself. This disease is most apt to occur at an advanced period of life, and is very liable to a relapse. It comes on with an acute pain, extending, in general, over the whole of the abdomen, but more especially round the navel, accompanied with eructations, sickness at the stomach, a vomiting of bilious matter, obstinate costiveness, thirst, heat, great anxiety, and a quick, hard, and small pulse. After a short time, the pain becomes more severe, the bowels seem

drawn together by a kind of spasm, the whole region of the abdomen is highly painful to the touch, and seems drawn together in hard, elevated contractions. Invincible costiveness prevails, and the urine is voided with great difficulty and pain. The inflammation, continuing to proceed with violence, terminates at last in gangrenes; or abating gradually, it goes off by resolution. Enteritis is always attended with considerable danger, as it often terminates in gangrene in the space of a few hours from its commencement.

TREATMENT.

We treat this, as we do all inflammatory complaints, by powerful stimulating remedies, which give action to the system, and cause a free circulation of the blood; thus at once reducing the inflammatory symptoms. Our Stimulating Liment is applied freely, and continued on the abdominal region, and over the whole body, and also to the feet. The Pectoral Tincture is administered in nauseating doses, and in case of costiveness, gentle physic may be given.

ERYSIPELAS.

ERYSIPELAS; the rose, or St. Anthony's fire. This disease is an inflammatory affection, principally, of the skin, when it makes its appearance externally, and of the mucus membrane, when it is seated internally. It is more liable to attack women and children, and those of an irritable habit, than those of a plethoric and robust constitution. Erysipelas sometimes returns periodically, attacking the patient once or twice a year, or even once every month; and then, by its repeated attacks, it often gradually exhausts the strength, especially if the patient be old, and of a bad habit. Every part of the body is equally liable to it; but it more frequently appears on the face, legs, and feet, than anywhere else, when seated externally.

It is brought on by all the causes that are apt to excite inflammation, such as injuries of all kinds; exposure to cold, and obstructed perspiration; and it may likewise be occasioned by a certain matter generated within the body, and thrown out on its surface. A particular state of the atmosphere seems sometimes to render it epidemical.

A species of erysipelatous inflammation, which most usually attacks the trunk of the body, is that vulgarly known by the name of *shingles*, being a corruption of the French word *ceingle*, which implies a belt. Instead of presenting a uniform inflamed surface, it consists of a number of little pimples, extending around the body, a little above the umbilicus, which have vesicles formed on them in a short time. Little or no danger ever attends this species of erysipelas.

TREATMENT.

This disease may be cured in a few days by the following course of treatment:

1st. Administer our Vegetable Syrup and Alterative Drops, for the purpose of cleansing the system.

2d. If the bowels be costive, take gentle laxatives.

3d. Apply our Tetter Salve to the affected surface, once or twice a day, and at each dressing, wash off with a decoction of equal parts of blood root, pond lily, kerkuma, and bitter-sweet, made into a suds, by the addition of Castile soap.

Keep the affected parts cool.

CHILBLAINS.

CHILBLAINS are painful inflammatory swellings, of a deep purple or leaden color, to which the fingers, toes, heels, and other extreme parts of the body, are subject, on being exposed to a severe degree of cold. The pain is not constant, but rather pungent and shooting at particular times, and an insup-

portable itching attends it. In some instances the skin remains entire; but in others, it breaks and discharges a thin fluid. When the degree of cold has been very great, or the application long-continued, the parts affected are apt to mortify, and slough off, leaving a foul, ill-conditioned ulcer behind.

Children and old people are more apt to be troubled with chilblains, than persons of middle age; and such as are of a scrofulous habit, are remarked to suffer severely from them.

TREATMENT.

If the skin remain unbroken, apply our Stimulating Liniment twice a day to the affected parts. After the skin becomes broken, the Tetter Salve may be made use of, and, at the same time, wash the sore with a decoction made of blood root.

If a foul indurated ulcer supervene, and the appearance of mortification becomes visible, apply, directly, *into the ulcer*, the Stimulating Liniment, which will give action, and correct the gangrene; after which, cure up the sore with our Vegetable Cerate.

HYSTERITIS—AN INFLAMMATION OF THE WOMB.

CHARACTERIZED by fever, heat, tension, tumor, and pain in the region of the womb; pain in the os uteri, when touched, and vomiting. In natural labors, as well as those of a laborious sort, many causes of injury to the uterus, and the peritoneum, which covers it, will be applied. The long-continued action of the uterus, on the body of the child, and the great pressure made by its head, on the soft parts, will further add to the chance of injury. Besides these, an improper application of instruments, or an officiousness of the mid-wife, in hurrying the labor, may have contributed to the violence. To these causes may be added, exposure to cold, by taking the women

too early out of bed after delivery, and thereby throwing the circulating fluids upon the internal parts, putting a stop to the secretion of milk, or occasioning a suppression of the lochia.

An inflammation of the womb is sometimes perfectly distinct, but it is more frequently communicated to the peritoneum, fallopian tubes, and ovaria; and having once begun, the natural functions of the organ become much disturbed, which greatly adds to the disease. It is oftener met with in women of a robust and plethoric habit, than in those of lax fibres, and a delicate constitution, particularly where they have indulged in food of a heating nature, and in the use of spiritous liquors. It never prevails as an epidemic, like puerperal fever, for which it has probably often been mistaken; and to this we may, with some reason, ascribe the difference in the mode of treatment which has taken place among physicians.

An inflammation of the uterus shows itself usually about the second or third day after delivery, with a painful sensation at the bottom of the belly, which gradually increases in violence, without any kind of intermission. On examining externally, the uterus appears much increased in size, is hard to the touch, and on making a pressure upon it, the patient experiences great soreness and pain. Soon afterward, there ensues an increase of heat over the whole of the body, with pain in the head and back, extending into the groins, rigors; considerable thirst, nausea, and vomiting. The tongue is white and dry, the secretion of milk is usually much interrupted, the lochia are greatly diminished, the urine is highly colored and scanty, the body is costive, and the pulse hard, full, and frequent. These are the symptoms which usually present themselves when the inflammation does not run very high, and is perfectly distinct; but when it is so extensive as to affect the peritoneum, those of irritation succeed, and soon destroy the patient.

Uterine inflammation is always attended with much danger, particularly where the symptoms run high, and the proper

means for removing them, have not been timely adopted. In such cases, it may terminate in suppuration, scirrhus, or gangrene. Frequent rigors, succeeded by flushing of the face, quickness and weakness of the pulse, great depression of strength, delirium, and the sudden cessation of pain and soreness, in the region of the abdomen, denote a fatal termination. On the contrary, the ensuing of a gentle diarrhea, the lochial discharge returning in due quantity and quality, the secretion of milk recommencing, and the uterus becoming gradually softer, and less tender to touch, with an abatement of heat and thirst, prognosticate a favorable issue. When shiverings attack the patient, after several days continuance of the symptoms, but little relief can be afforded by medicine, the event being generally fatal in this case; the woman emaciates and loses her strength, becomes hectic, and sinks under colliquative sweating or purging.

TREATMENT.

The exhibition of our Vegetable Syrup will be found invaluable in the treatment of this complaint. It will not only aid in regulating the bowels, and cause a healthy action without resort to cathartics, but it acts as a powerful preventive to scirrhus, suppuration, and gangrene. If there should be a case where costiveness should not be entirely removed, a gentle cathartic may be administered. Our Female Drops, taken in doses of six or eight drops, diluted in warm water sweetened, may be used to advantage; and if the patient be very feeble, tonic bitters may be administered. Externally, our Stimulating Liniment may be applied once a day, on the breast, bowels, back, and loins, and on plasters at the bottoms of the feet. It may be of advantage to apply a plaster to the back. About the head and neck, let the Nerve Liniment be freely applied—as in cases of this complaint the nervous system is generally much affected—in the region of the uterus, if there be much external inflammation. The application of our Vegetable Cerate will be useful to aid in allaying inflam-

mation, and relieve the patient from pain: at the same time apply a poultice made of the flour of white beans, to which add a little slippery elm bark and pond lily root. If the febrile symptoms run high, a similar course to that adopted by us in cases of fever, may be resorted to, which will generally reduce the febrile symptoms by one application. The course here recommended has proven successful in every case within our knowledge: and we feel the more pleasure in recommending it, from the fact that, this disease is considered one of the most difficult of treatment, by the best physicians, and that it is frequently mistaken for puerperal fever. Whenever this mistake happens, there is no danger of injury to the patient by a wrong judgment of the form of disease—as the prominent directions herein given may be applied in child-bed fever to good advantage. This course will give action to the circulating fluids of the body, relieve the oppressed organs, reduce the inflammation, and readily relieve the patient from every dangerous symptom.

LEUCORRHEA.

FLUOR ALBUS—the whites. A secretion of whitish or milky mucus from the vagina of a woman, arising from debility, and not from venereal virus. This disease is marked by the discharge of a thin white or yellow matter from the uterus and vagina, attended with some degree of fetor, smarting in the uterus, pain in the back and loins, anorexia, and atrophy. In some cases the discharge is of so acrid a nature as to produce effects on those who are connected with the woman somewhat similar to venereal matter, giving rise to excoriation about the glands and preputium, and occasionally a weeping from the urethra. To distinguish leucorrhœa from gonorrhœa, it will be very necessary to attend to the symptoms. In the latter, the running is constant, but in a small quantity; there is much ardor urinæ, itching of the pudenda, swelling of the labia, increased inclination to venery, and very

frequently an enlargement of the glands in the groin; whereas in the former, the discharge is irregular, and in considerable quantities, and is neither preceded by, nor accompanied with, any inflammatory affection of the pudenda.

Immoderate coition, injury done to the parts by difficult and tedious labor, frequent miscarriages, immoderate flowings of the menses, profuse evacuations, poor diet, and other causes giving rise to general debility, or to laxity of the parts more immediately concerned, are the causes which usually give rise to the disease. Delicate women with lax fibers, are very apt to be attacked, without the parts having been injured.

A perfect removal of the disorder will at all times prove somewhat difficult to procure; but it will be much more so in cases of long standing, and where the discharge is accompanied with a high degree of acrimony. In these cases, many disorders, such as prolapsus uteri, ulcerations of the organs, atrophy, and dropsy, are apt to take place, which in the end prove fatal.

TREATMENT.

In leucorrhea, there is accompanying the discharge, general debility, with considerable disorder of the digestive organs. Which of these symptoms claim our first attention?

The treatment should, from the first commencement, be appropriate to them all. The derangement of the digestive organs will require such gentle laxatives as will produce two or three evacuations daily. This will be effected by the use of our Vegetable Syrup, generally—warming medicine should be exhibited, and the diet should be light, nutritious, and suited to the digestive powers. The tincture of cubebs, given in tea-spoonful doses three times a day, before eating, has relieved many cases of the leucorrhea. Our Stimulating Lini-ment, applied on plasters, renewed daily, and worn on the back and low on the abdominal region, together with small plasters of the same on the bottoms of the feet, should not be omitted. Our Female Drops, taken according to directions,

should be continued until perfect relief be obtained. Let the patient drink freely of tonic bitters, into which mix a small quantity of birth root, and a tea of white cohosh; into each draught add a half tea-spoonful of tincture of gum myrrh. A wash may be made use of daily, by injection, made of white oak bark and birth root, with a little balsam of life. If a cure is not effected by this treatment, continue the Lini-ment, and give the patient half a cup of senna tea three times a day, for a week; then give a table-spoonful of port wine, with an egg in it, for a number of mornings. A tea of holly-hock and princess feather, occasionally through the day; and sometimes, for a change, a tea of the bark of the crab-apple tree, and at night a tea-spoonful of charcoal and magnesia, in melasses. Drink no tea or coffee. Make a custard in the following manner: Dissolve one ounce of isinglass in two quarts of milk, with eggs seasoned with cinnamon, nutmeg, and allspice—eat a few spoonsful three times a day. Malaga wine, yolk of an egg, and loaf sugar, may be taken occasionally. As a change for injection, white oak ooze and alum—broad leaf motherwort—young hyson tea, cinnamon and fennel.

We have never witnessed a case where all the above prescriptions were necessary. They are given for the purpose of enabling the patient to procure such of them as may come within reach of being obtained. Though the patient should not despair if immediate relief be not gained, long standing cases require much care, attention, and perseverance. Exposures of every kind ought to be avoided; gentle exercise in a carriage may be advantageous; and in order to divert the mind from the fearful forebodings attendant on the complaint, the changing of objects by traveling and the promiscuous intercourse in society, will do much towards rendering the patient comfortable and happy.

PROLAPSUS UTERI.

THIS complaint, so common, and at the same time usually so unsuccessfully treated, has uniformly been overcome by an

application of our remedies. At present, the usual treatment of the complaint is by supporters, which palliate the disease, though seldom, if ever, do they promise a cure. But the external and internal remedies which we prescribe, have a tendency to strengthen the uterine organs, restore a healthy and free circulation to the fluids of the body, and a cure is the result. It is well known that the fluor albus is sometimes an attendant on this complaint, and we have adopted the treatment recommended for that complaint, in cases of prolapsus uteri. A vast number of cases have recently been cured with an expense much less than the cost of a supporter; and when we compare the vast difference between a radical cure and a palliation of so distressing a disease, we should judge that none would hesitate which to choose. Though in many cases, the prolapsus uteri, of long standing, has been relieved so suddenly, that some have pronounced the cure a miracle, we wish to guard our friends against the belief that such results will always occur by the use of our remedies. It is well known to the careful observer, that ladies thus afflicted, generally, are among the most ambitious, talented, and persevering, in whatever may be their pursuits in life, and that such women are by no means the most prudent in guarding their health; but, on the other hand, they will persevere in their avocations before they have gained sufficient strength, and before the disease is entirely overcome. To such we say, that all great exertions, exposures to cold, walking, and particularly the frequent ascending stairs, etc., are exceedingly injurious, and ought to be avoided. Let the diet be simple, and easy of digestion. Wear a silk dress under the flannel. Let the mind be free from anxious cares—and the patient may look forward with the pleasing prospect of health and happiness.

ASTHMA.

ASTHMA; a difficulty of respiration, returning at intervals, with a sense of strictures across the breast, and in the lungs;

a wheezing, hard cough, at first, but more free towards the close of each paroxysm, with a discharge of mucus, followed by a remission. Asthma rarely appears before the age of puberty, and seems to attack men more frequently than women, particularly those of a full habit, in whom it never fails, by frequent repetition, to occasion some degree of emaciation. In some instances, it arises from hereditary predisposition; and in many others, it appears to depend on a particular constitution of the lungs. Dyspepsia always prevails, and appears to be a very prominent feature in the predisposition. Its attacks are most frequent in midsummer, and in dog days, and its first attack is frequently in the night. It is preceded by dullness, headache, drowsiness, and lassitude. If the cough is attended with an expectoration of mucus, he experiences much relief, and soon falls asleep. When he awakes in the morning, he still feels some degree of tightness across the breast, although his breathing is probably more free and easy, and the least motion renders this more difficult and uneasy; neither can he continue in bed, unless his head and shoulders are raised to a considerable height. Towards evening he again becomes drowsy, is much troubled with flatulency in the stomach, and perceives a return of the difficulty of breathing, which continues to increase gradually, till it becomes as violent as the night before.

The exciting causes are various. Accumulation of blood or viscid mucus, in the lungs; noxious vapors; a cold and foggy atmosphere; a close, hot air; the repulsion of eruptions; flatulence; accumulated feces; violent passions; organic diseases in the thoracic viscera; etc. Sometimes the fits return regularly. The disease seldom proves fatal, except as inducing other more formidable diseases.

TREATMENT.

The treatment must vary, in some degree, according to the form of the disease, and its attendant approximation to other diseases. A regular diet of easily digested food, and proper

regimen, will do much towards relieving the disease. We apply the Nerve Liniment freely to the breast, neck, and between the shoulders, twice or thrice a day. The Pectoral Tincture may be taken five or six times in twenty-four hours, regulating the dose from six to twelve drops, as the stomach can bear without nausea. Drink warm herb tea; soak the feet in warm water, and apply the Liniment to the bottoms thereof. There are some cases so severe, that it may be proper to apply the Liniment over the whole body, take the Diaphoretic Drops, and cause a free perspiration; but a continuation of the treatment first directed, will almost always grant permanent relief.

SICK HEADACHE.

THE great interest which has been excited by reason of the cures performed in a number of very distressing cases of many years standing, by the use of our Liniment for Headache, has induced us to give more extensive directions for its application, in the various forms of that complaint.

TREATMENT.

For slight headache, apply the Liniment, with friction, to the forehead, and crown of the head, holding the warm hand on the forehead, or applying warmth in any other way, or binding on a silk handkerchief, will facilitate relief.

In more severe cases, in addition, apply the Liniment behind the ears, and to the back of the neck, a plaster of the same, and rub the Liniment on the breast, neck, spine, and soles of the feet. When these applications do not succeed, by inserting a small quantity of the Liniment into each nostril, which will prove pungent, and not severely so, for a few minutes only, it often gives entire relief.

For severe paroxysms of sick headache, apply as above, and if speedy relief does not ensue, the patient should treat

the case more elaborately. Where the disease is caused by a foul state of the stomach, take from ten to twenty drops of our Pectoral Tincture, or sufficient to produce gentle vomiting, which will be effected by the Pectoral Tincture, without cramping the stomach, and apply warm bricks to the soles of the feet. Soak the feet and legs in warm water, rub them with a flesh brush; then apply to the legs and feet our Stimulating Liniment, and wear the same on plasters applied to the bottoms of the feet, keeping the feet very warm. Let there be a small portion of the Headache Liniment applied in the ears, as far as it can be inserted, two or three times a day.

CHAP. IX.

SCROFULA, OR KING'S EVIL.

SCROFULA consists in hard indolent tumors of the conglobate glands, in various parts of the body, but particularly in the neck, behind the ears, and under the chin, which, after a time, suppurate and degenerate into ulcers, from which, instead of pus, a white curdled matter, somewhat resembling the coagulum of milk, is discharged.

The first appearance of the disease is most usually between the third and seventh year of a child's age; but it may arise at any period between this and the age of puberty, after which it seldom makes its first attack. It most commonly affects children of a lax habit, with smooth, fine skin, fair hair, and rosy cheeks. It likewise is apt to attack such children as show a disposition to *rickets*, marked by a protuberant forehead, enlarged joints, and a tumid abdomen. Like this disease, it seems to be peculiar to cold and variable climates, being rarely met with in warm ones. Scrofula is by no means a contagious disease; but, beyond all doubt, is of an hereditary nature, and is often entailed by parents on their children. There are, indeed, some practitioners, who wholly deny that this, or any other disease, can be acquired by an hereditary taint. That a peculiar temperament of body, or predisposition in the constitution of some diseases, may extend from both father and mother, to their offspring, as observes Doctor Thomas, is very clearly proved. For example, we very frequently meet with gout in young persons of both sexes, who could never have brought it on by intemperance, sensuality, or improper diet, but must have acquired the predisposition to it in this way. Where there is any predispo-

sition in the constitution to scrofula, and the person happens to contract a venereal taint, this frequently excites into action the causes of the former, as a venereal bubo not unfrequently becomes scrofulous, as soon as the virus is destroyed by mercury.

The late Doctor Cullen supposed scrofula to depend upon a peculiar constitution of the lymphatic system. The attacks of the disease seem much affected or influenced by the period of the seasons. They begin usually sometime in the winter and spring, and often disappear, or are greatly amended, in summer and autumn.

The first appearance of the disorder is commonly in that of small oval, or spherical tumors, under the skin, unattended by any pain or discoloration. These appear, in general, upon the sides of the neck, below the ears, or under the chin; but in some cases, the joints of the elbows, or ankles, or those of the fingers and toes, are the parts first affected. In these instances, we do not, however, find small moveable swellings; but on the contrary, a tumor almost uniformly surrounding the joint, and interrupting its motion. After some time, the tumors become larger and more fixed; the skin which covers them, acquires a purple or livid color, and being much inflamed, they at last suppurate, and break into little holes, from which, at first, a matter somewhat puriform oozes out; but this changes, by degrees, into a kind of viscid, serous discharge, much intermixed with small pieces of a white substance, resembling the curd of milk. The tumors subside gradually, while the ulcers, at the same time, open more, and spread unequally in various directions. After a time, some of the ulcers heal; but other tumors quickly form in different parts of the body, and proceed on, in the same slow manner as the former ones, to suppuration. In this manner the disease goes on for some years, and appearing at last to have exhausted itself, all the ulcers heal up, without being succeeded by any fresh swellings, but leaving behind them an ugly puckering of the skin, and a scar of considerable extent. This is the most mild form under which scrofula ever ap-

pears. In more virulent cases, the eyes are particularly the seat of the disease, and are affected with ophthalmia, giving rise to ulcerations in the *tarsi*, and inflammation of the *tunica adnata*, terminating, not unfrequently, in an opacity of the transparent *cornea*. In similar cases, the joints become affected; they swell, and are incommoded by excruciating, deep seated pain, which is much increased upon the slightest motion. The swelling and pain continue to increase, and the muscles of the limb become, at length, much wasted. Matter is soon afterwards formed, and this is discharged at small openings, made by the bursting of the skin; being, however, of a peculiar acrimonious nature, it corrodes the ligaments and cartilages, and produces a caries of the neighboring bones. By an absorption of the matter into the system, hectic fever at last arises, and in the end, proves fatal.

When scrofula is confined to the external surface, it is by no means attended with danger, although leaving one part, it is apt to be renewed in others. But where the ulcers are imbued with a sharp acrimony, spread, erode, and become deep, without showing any disposition to heal; when deep-seated collections of matter arise from among the small bones of the hands and feet, or in the joints, or tubercles of the lungs, with hectic fever, the consequence will be fatal.

On opening the bodies of persons who die of this disease, many of the viscera are usually found in a diseased state, but more particularly the glands of the mesentery, which are not only much tumified, but often ulcerated. The lungs are frequently beset with a number of tubercles or cysts, which contain matter of different kinds. Scrofulous glands, on being examined by dissection, feel somewhat softer to the touch, than in their natural state, and when laid open, they are found to contain a soft, curdy matter, mixed with pus.

TREATMENT.

The first object to be gained in the treatment of king's evil, is to cleanse the blood, and restore the digestive powers of

the stomach. To render pure the circulating fluids, we administer, three times per day, our Vegetable Syrup in table-spoonful doses, to which add half a tea-spoonful of our Alterative Drops. If the stomach be foul, take the Pectoral Tincture in nauseating doses, until it be cleansed; at the same time apply our Stimulating Liniment freely to the pit of the stomach, once or twice a day. The same Liniment ought to be applied over the whole, *sound* surface of the body, once a day, and by our usual means, cause a free perspiration frequently, or until there be a full circulation of all the circulating fluids. On the *ulcers* apply the Vegetable Cerate, spread on plasters, and cleanse them twice a day with Castile soap suds.

Let the whole body be washed off with soap suds, and then with salt and water, twice a week.

If the tumors be indolent, they may be treated with so much of our stimulating remedies, as will cause action in them; but if they be irritable, apply a wash at each dressing, composed of equal parts of blood-root, bitter-sweet, kircuma, and dandalions, made into a suds, by Castile soap.

When the skin is not broken, and the tumorous swellings have not formed matter, we have frequently been enabled to reduce the swelling by the application of our Liniment, and have thus prevented an ulcer.

It is of much importance in scrofula, that the patient avoid all intemperance, or excess of any kind. The food ought to be simple, of easy digestion, principally of hard, old bread, or ship-biscuit, avoiding oily substances or meat. Let the exercise be moderate, and the mind ought to be freed from care or anxiety; and a frequent intercourse with social friends will do much to dispel the gloom with which patients, afflicted with scrofula, are frequently troubled, and which retards the progress of a cure.

With particular attention to the foregoing directions, the patient may look forward with the pleasing anticipation of a radical relief from this most loathsome disease.

SCURVY.

SCURVY (*scorbutus*): a disease of a putrid nature, prevalent in cold and damp climates. It chiefly affects sailors, and such as are shut up in besieged places, owing, as is supposed, to their being deprived of fresh provisions, and a due quantity of acescent food; to the prevalence of cold and moisture, and by such other causes as depress the nervous energy, as indolence, confinement, want of exercise, neglect of cleanliness, much labor and fatigue, sadness, despondency, etc. These debilitating causes, with the concurrence of a diet consisting principally of salted or putrescent food, will be sure to produce this disease. It seems, however, to depend more on a defect of nourishment, than on its vitiated state; and the reason that salted provisions are so productive of the scurvy, is, most probably, because they are drained of their nutritious juices, which are extracted and run off in brine.

As the disease is apt to become general among the crew of a ship when it has once made its appearance, it has been supposed by many to be of a contagious nature; but the conjecture seems by no means well founded. The scurvy comes on gradually, with heaviness, weariness, and unwillingness to move about, together with dejection of spirits, considerable loss of strength, and debility. As it advances in its progress, the countenance becomes sallow, and bloated; respiration is hurried, on the least motion; the teeth become loose; the gums are spongy; the breath is very offensive; livid spots appear on different parts of the body; old wounds, which have long been healed up, break out afresh; severe wandering pains are felt, particularly by night; the skin is dry; the urine, small in quantity; and the pulse is small, frequent, and towards the last, intermitting; but the intellect, for the most part, clear and distinct. By an aggravation of the symptoms, the disease, in its last stages, presents a most wretched appearance.

Scurvy, as usually met with on shore, or when the person has not been exposed to the influence of the remote causes before enumerated, is unattended by any violent symptoms. Slight blotches, with scaly eruptions on different parts of the body, and a sponginess of the gums, are the chief ones observed. In the cure, as well as in the prevention of scurvy, more is to be done by regimen than by medicines, obviating, as far as possible, the several remote causes of the disease, but particularly providing the patient with a more wholesome diet, and a large proportion of fresh vegetables; and it has been found that those articles are especially useful, which contain a native acid, as oranges, lemons, etc. Where these cannot be procured, various substitutes have been proposed, of which the best appear to be, the inspissated juices of the same fruits, or the crystallized citric acid. Vinegar, sour-cROUT, and farinaceous substances, made to undergo the acetous fermentation, have likewise been used with much advantage; also, brisk fermenting liquors, as spruce beer, cider, and the like. Mustard, horse-radish, garlic, and other substances of a stimulating character, promoting the secretions, are useful to a certain extent.

TREATMENT.

To cure scurvy effectually, we first administer our preparations for fever, fully. This treatment will arrest the disease; and it is peculiarly favorable to sailors, as the necessary means may at all times be at hand, whereas the usual remedies are frequently without the reach of this useful class of men.

We also apply our Tetter Salve over the whole body, once or twice a day; and prepare a decoction of equal parts of mustard seed, horse-radish, and garlic, which may be taken as a common drink. Much, however, depends upon a complete change of diet—a continued use of salt provisions, is said to be one of the producing causes of the complaint. We would recommend sour-cROUT; and, in many cases, the acids may be

used pretty freely, such as vinegar, cider, etc. Fresh provisions, together with a strict regard to cleanliness, will do much towards effecting a cure.

SYPHILIS.

SYPHILIS, (from the Greek *siphlos*, feeble,) is the name now most frequently used for the venereal disease, which is thus called in a very fine poem, written in Latin hexameters, by the Italian Fracastorio, (first printed in Venice, 1530, 4to). The history of this disease is one of the most difficult parts of the history of medicine. It is uncertain whether that violent and truly epidemical disorder of the skin, which appeared in the last ten years of the fifteenth century, was really what we now call syphilis, or not rather a variety of the leprosy, which soon after entirely disappeared. Towards the end of the fifteenth, and at the beginning of the sixteenth century, a disease appeared in Europe, till then unknown, and which, by its rapid extension, its horrible consequences, its great contagiousness, the inefficacy of all the remedies employed against it, perplexed the physicians, and excited a general horror. Respecting its origin, nothing certain is known. The physicians of that time were, generally speaking, too ignorant to investigate the origin of a disease which they were but rarely able to cure. Until lately, it was pretty generally believed that this malady was carried by the vessels of Columbus from America to Europe; but the most accurate examination of this opinion, shows its incorrectness. The first author who expresses this opinion, was a physician of Nuremberg, Germany, of the name of Leonhard Schmauss, in 1518. He founded his opinion upon the fact, that the guaja wood, which had been introduced from America in the mean time, had become known as a good remedy for the disease; for, said he, nature always provides an antidote in the vicinity of a poison. The principal support which his opinion received, was from the testimony of the son of Columbus, and his suc-

cessor, Oviedo: but the first speaks only of a disease like scald-head, said to predominate in St. Domingo; and the other, a tyrant, like most of the Spaniards in America at that period, delights in representing his nation as the favorite people of God, and the Americans as cursed. A careful inquiry, shows only that the crew of Columbus brought a contagious disease with them, which destroyed the greater part of their number, and communicated itself to those who had intercourse with them. This is easily explained by the imperfect care taken of the health of such a crew, and the uncommon hardships of such a voyage, in those times. At all events, their complaint was not the venereal disease, as this broke out, almost at the same moment, in the summer of 1493, in the south of France, in Lombardy, and in the north of Germany. Now, the vessels of Columbus did not arrive, till April, at Seville, and the disease could not possibly have spread so far from this place within two months.

Others have sought for the origin of this disease in the expulsion of the Marranos (secret Jews) from Spain, between 1485 and 1493. Many thousands of these unhappy persons died of the plague on their passage by sea to Italy, Greece, etc. Thousands of others suffered by the leprosy; and without doubt, they carried misery and sickness with them wherever they went. But that this particular form of disease existed among them, cannot be proved; and, moreover, though Germany was not visited by these emigrants, the syphilis showed itself simultaneously, in 1493, in Halle, Brunswick, Mecklenberg, etc.

As to the opinion that the venereal disease had always existed in some form, it only amounts to a play upon words, as a mere diseased state of the genitals is far from amounting to syphilis, especially if we consider the horrid consequences which that disease produced at the time referred to. The most probable conclusion is, that the venereal disease was produced by an epidemic tendency existing at that time, which gave this new form to the leprosy, then so widely spread.

The ancient writers, for many years, described syphilis more as a terrible disease of the skin and bones in general, than as a mere affection of particular parts—more as a plague, than as a disorder of particular individuals. A new form of disease could be developed the more readily, as the political relations of that time brought the nations very much into connection with each other; Spaniards, French, Germans, traversed Italy; and all these, together with the Italians, spread through Germany. The disease brought by the sailors from America, akin to the scurvy, may also have contributed its part. It is certain that the disease was then far more terrible than now. It made the patient an object of horror to his friends, and almost inevitably reduced him to despair, as no physician was able to aid him, and the remedies used were almost as shocking as the disease. Since contagion at that period took place much easier than now, and houses of ill fame, which contributed greatly to spread the disease, were found everywhere, the disorder had by no means the same character of disgrace connected with it as at present. On the contrary, Ulrich von Hutten, who suffered from it for years, and at length recovered his health by the use of guaiacum, and the strength of his constitution, always enjoyed public esteem, and even dedicated his work on the disease to the first spiritual prince of Germany, without indecorum or offense. Like other diseases, it gradually diminished in virulence, particularly after Paracelsus had found in mercury, and Swediauer in acids, the most effective remedies against it; and great suffering does not arise from it at present, except in consequence of neglect: yet it is still a formidable disease, as it injures, more or less, the general health, and lays the foundation for other diseases of a very obstinate character—gout, rheumatism, complaints in the bladder, etc.

REMARK.—A reference to the directions for the treatment of venereal, in this work, will enable the practitioner to overcome the disease with as much readiness as any practice heretofore adopted. Though the gonorrhœa and syphilis are two distinct forms of the venereal, we find the same remedies for

cleansing the system to be appropriate to both. There must be much care taken by the patient to avoid all heating drinks, and excesses of every kind, and more particularly that of venery.

HERPES, OR TETTER.

HERPES—a Greek word signifying to creep, because it creeps and spreads about the skin—tetter: an assemblage of numerous little creeping ulcers, in clusters, itching very much, and difficult to heal, but terminating in furfuraceous or bran-like scales. Bell, in his treatise on ulcers, arranges the herpes among the cutaneous ulcers, and says, that all the varieties, of importance, may be comprehended in the four following species: 1st. *Herpes farinosus*, or what might be termed the dry tetter, is the most simple of all the species. It appears indiscriminately on different parts of the body, but most commonly on the face, neck, arms, and wrists, in pretty broad spots, and small pimples. These are generally very itchy, though not otherwise very troublesome; and after continuing a certain time, they at last fall off in the form of a white powder, similar to fine meal, leaving the skin below perfectly sound; and again returning in the form of a red efflorescence, they fall off, and are renewed, as before. 2d. *Herpes pustulosus*.—This species appears in the form of pustules, which originally are separate and distinct, but which afterwards run together in clusters. At first, they seem to contain nothing but a thin, watery serum, which afterwards turns yellow, and exuding over the whole surface of the part affected, at last dries into a thick crust, or scale; when this falls off, the skin below frequently appears entire, with only a slight degree of redness on its surface; but on some occasions, when the matter has probably been more acrid, upon the scale falling off, the skin is found slightly excoriated. Eruptions of this kind appear most frequently on the face, behind the ears, and on other parts of the head, and they occur mostly in children.

3d. *Herpes miliaris*—the miliary tetter. This breaks out indiscriminately over the whole body, but more frequently about the loins, breast, perinæum, scrotum, and inguinæ, than in other parts. It generally appears in clusters, though sometimes in distinct rings, or circles of very minute pimples, the resemblance of which to the millet seed, has given rise to the denomination of the species. The pimples are at first, though small, perfectly separate, and contain nothing but clear lymph, which, in the course of this disease, is excreted upon the surface, and there forms into small, distinct scales; these at last fall off, and leave a considerable degree of inflammation below; and still continue to exude fresh matter, which likewise forms into cakes, and so falls off as before. The itching, in this species of complaint, is always very troublesome; and the matter discharged from the pimples is so tough and viscid, that every thing applied to the part adheres so as to occasion much trouble and uneasiness on its being removed. 4th. *Herpes exedens*—the eating and corroding tetter; so called from its destroying or corroding the parts which it attacks. It appears commonly, at first, in the form of several small painful ulcerations, all collected into larger spots, of different sizes and different figures, which are always more or less of an erysipelatous inflammation. These ulcers discharge quantities of their sharp, serous matter, which sometimes forms into small crusts, that in a short time fall off; but most frequently, the discharge is so thin and acrid, as to spread along the neighboring parts, where it soon produces the same kind of sores. Though these ulcers do not in general proceed farther than the cutis vera, yet, sometimes the discharge is so very penetrating and corrosive as to destroy the skin, cellular substance, and, on some occasions, even the muscles themselves. It is this species which should be termed *phagedenic*, or spreading ulcer, from the great destruction of parts which it frequently occasions.

TREATMENT.

We have treated every species of tetter with our preparations, with decided advantage. In ordinary cases, rubbing the parts once or twice a day with our Tetter Salve, washing off occasionally with Castile soap suds, will effect a cure. But in long-standing cases of tetter, where the system is much affected with it, we administer our Vegetable Syrup and Alterative Drops three or four times a day—apply the Tetter Salve three times a day, with a soft shaving-brush—keep the parts cool. We also wash the affected parts, three or four times a day, with a decoction of equal parts of blood-root, bitter-sweet, curcuma, and dandelion,—taking great care to remove all the matter which is discharged therefrom. With this treatment, obstinate cases have been cured, which had been unyielding to every other prescription for years. Salt rheum, and erysipelas, have been cured by the same means.

TINEA CAPITIS, OR SCALD-HEAD.

THIS disease consists in a chronic inflammation of the skin of the head, productive of a secretion of matter peculiar in its nature, and capable of propagating the complaint, if applied to the scalp of a healthy subject. At first, the eruption is confined, probably, to only a small portion of the head; but, by degrees, its acrimony is extended to the neighboring parts, and, at length, the whole of the scalp is eroded, and beset with a scabby eruption. Children are principally affected with it, particularly of the lower class: hence it evidently arises from uncleanness, from the want of a due proportion of wholesome nutritive food, and possibly from bad nursing. At any rate, these will very much aggravate the disease. In many instances, it is propagated by contagion, either by using a

comb imbued with the matter from the head of a person laboring under it, or by putting on his hat or cap. When proper means are early adopted, the disease seldom proves difficult of cure.

TREATMENT.

One of the most obstinate cases of scald-head was cured, a number of years ago, by our remedies, adopting the following method—viz: We first applied our Vegetable Cerate a few days, leaving the head exposed to the air; then our Tetter Salve; washing twice a day with Castile soap. We gave, internally, our Alterative Drops, to cleanse the system. In about two months, a cure was effected.

This treatment has proved eminently successful, in every case which has come within our knowledge.



CHAP. X.

WHITE SWELLING.

ARTHRORRHOIS; lumbar abscess; white swellings, and other affections of the joints: white swelling. According to Cooper, in his first work on the practice of surgery, the large joints, such as the knee, ankle, wrist, elbow, are most exposed to the attack of this alarming malady.

In the first stages of the disease, the skin is not at all altered in color. The swelling sometimes yields, in a certain degree, to pressure, but is generally sufficiently firm to make the uninformed examiner believe that the bones contribute to the tumor. Whatever degree of pain may attend the early stage of the disorder, it particularly affects only one point of the articulation, in general its center, or the head of the tibia. In most cases, the tumor at first is very trivial, although the pain is severe. When the knee is affected, a fullness is first observed to occupy the little hollows, which are naturally situated on each side of the patella. This prominence augments, and the whole articulation soon becomes everywhere very palpably enlarged. As the patient cannot bear the weight of the body on the affected limb, he gets into the habit of only touching the ground with his toe, and thus the knee is generally kept a little bent, and the power of completely extending it again is soon lost. In advanced cases, the knee is always found in a permanent state of flexion, or being bent. At length the diseased joint attains an enormous size, but the skin is not materially affected; a shining smoothness, and a few varicose veins, being the only uncommon appearances. The skin, however, cannot now be pinched up into a fold, as it could in the early stage of the disease. At

last, abscesses form around the joint, and their contents are discharged through ulcerated apertures. These openings occasionally heal after some time, and other similar abscesses take place at a different part of the tumor. The patient's health gradually becomes impaired, by the local disease. His appetite fails; he cannot sleep at night; his pulse is small and frequent; he has profuse perspirations, and his bowels are often disordered with diarrhea. Under such symptoms, dissolution follows sooner or later, unless the local disease be relieved.

There is another kind of white swelling, termed *rheumatic*, and it is very different from the *scrofulous*, just described. In the rheumatic, the pain is said never to occur, without some swelling being evident, nor does the acuteness of the pain subside, in proportion, as the tumefaction increases. On the other hand, scrofulous white swellings are always preceded with pain, which is not so acute after the swelling commences, as it was before. "In rheumatic cases, the pain is not confined to a particular point, but extends over the whole articulation, and the health is not so much impaired as in other instances. I believe also, the bones do not undergo the morbid alteration which is peculiar to scrofulous affections of the joints. Rheumatic cases are more frequently cured than scrofulous ones. It is a very prevailing opinion that, in white swellings, the heads of the bones are preternaturally enlarged. I must frankly own, that, deceived by the feel of many diseased joints, and influenced by general opinion, I once imbibed the idea, that there is often a regular expansion of the heads of scrofulous bones. But, excepting an occasional enlargement, which arises from spicula of osseous matter, deposited on the outside of the tibia, ulna, etc., and which alteration cannot be called an expansion of those bones, I never have been an eye-witness of the head of a bone being of preternaturally large dimensions, in consequence of the disease known by the name of white swelling. I have been in the habit of frequently inspecting the state of numerous diseased joints which are annually amputated in St. Bartholo-

mew's hospital, and though I have long been attentive to this point, my searches after really enlarged scrophulous bones, have always been in vain. The change which the head of the tibia undergoes in many cases, is first a partial absorption of the phosphate of lime throughout its texture, while a soft kind of matter seems to be secreted into its substance. In a more advanced stage, and indeed, in that stage which most frequently takes place before a joint is amputated, the head of the bone has deep excavations in consequence of caries, and its structure is now so softened, that when an instrument is pushed against a carious part, it easily penetrates deeply into the bone. A cursory examination of the diseased joint, even when it is cut open, will not suffice to show that the bones are not enlarged. I dissected one a few weeks ago, and on first looking at the parts, the swelling had every appearance of arising from an actual expansion of the bones. An intelligent medical friend, who was present, felt the ends of the bones, after the integuments were removed, and he coincided with me, that the feel, which was even now communicated, seemed to be caused by a swelling of the bones themselves. But on cleaning them, the enlargement was demonstrated to arise entirely from a thickening of the soft parts. The soft parts undergo a material change; they are both thickened and softened; and there is a large quantity of a viscid fluid intermixed with the cellular substance, which becomes thicker and softer than in the healthy state. In the cavity of the joint, we sometimes find a quantity of curdy matter, and the cartilages absorbed in various places."

TREATMENT.

Very many cases of scrophulous and rheumatic white swellings have been treated with our remedies, within the last four years, with the most decided success; several of them are given in another part of this work, some of which had been pronounced incurable by eminent physicians both of Europe and America.

We have cured some cases where the thigh and arm bones were perfectly *carious*, a large number of bones having exfoliated therefrom, and in one instance the upper end of the thigh bone came out entire, at the hip.

We have found by experience, that it requires a long, continued and persevering treatment to effect a radical cure, sometimes nine months or a year.

Our first object has been, to relieve the intense suffering and in every case, we have been enabled to succeed in attaining this desirable object. We then commence a course of cleansing the circulating fluids, to effect which, we administer regularly, our Vegetable Syrup and Alterative Drops; keep the bowels open by gentle cathartics; sustain the system with tonics; and we also apply our Stimulating Liniment over the whole, *sound* surface of the body, twice a day, which aids in cleansing the blood, and giving action to the system, frequently causing a free perspiration. At the same time, we apply our Vegetable Cerate to the ulcers, and wash them twice a day with Castile soap. If there be much inflammation, we apply a poultice compounded of kircuma, slippery-elm bark, bark of the root of willow, pond lily, blood-root, and bitter-sweet. Sometimes we apply the poultice, and as a change, the Cerate.

If ulcers become morbid, we apply stimulating agents thereto, to give action, and cause a more ready discharge.

All the variations from this course, necessary to meet special cases, will be readily comprehended by those who may have charge of the treatment.

It is very important that the patient abstain from all oily food, or that which is not easily digested.

A persevering course of treatment, as above described, is sure of affording relief; and the use of the knife will seldom, if ever, be necessary, even in the worst cases; for, if the ulcers have commenced gangrene, the Stimulating Liniment, applied *directly* into them, will correct it.

WHITLOE.

PARONYCHIA; panaris; panaritium; whitloe or felon. Any collection of pus formed in the fingers, is termed by authors, *panaris*, or whitloe, and is an abscess of the same nature, as those arising on other parts of the body. These abscesses are situated more or less deep, a fact which has induced writers upon the subject, to divide them into several species; accordingly they have arranged them under four heads, agreeably to the places in which they are formed.

The first kind of panaris is formed under the cuticle, under one side of the nails, and sometimes all round. The second is seated in the fat lying under the skin, between that and the sheath, which involves the flexor tendon. The third is described by authors, to be formed within the sheath; and they still add a fourth species, arising between the periosteum and the bone.

Whitloe is a settling of humors, which come on after a pricking, or any other wound, and often without any external provocation. The pains in this affection, are very acute. When it breaks out, it often shows an excrescence. This settling commonly takes place under the periosteum, and may rot the bone, which may cause the loss of one or two phalanxes. A good surgeon may open the settling with skill; even make the amputation of the affected limb; but cutting is not curing.

TREATMENT.

The many promulgated remedies for whitloe, would seem to be sufficient. We have, however, been enabled to cure some very bad cases by a continued application of our Vegetable Cerate, from the commencement of the swelling until the cure was effected. Whenever the hand, wrist, or arm become painful, we have applied thereto our Stimulating Liment. In most cases, an opening becomes necessary, but this alone by no means will effect a cure.

H E R N I A .

HERNIA (a rupture, a burst, a descent): a tumor formed by the displacement of a soft part, which protrudes through an accidental opening, from the cavity in which it is contained. The three great cavities of the body are subject to these displacements. The brain, the heart, the lungs, and most of the abdominal viscera, may become totally or partially displaced, and thus give rise to the formation of herniary tumors. Displacement of the brain, and of the organs of the chest, are, however, extremely rare, and are in general the result, or symptom, of some other disease. Every part of the abdomen may become the seat of hernias; but they most commonly appear in the anterior and inferior region, which being destitute, in a great measure, of fleshy fibers, and containing the natural openings, offers less resistance to the displacements of the viscera. They are most common in the groin, at the navel; more rarely, in the vagina, at the interior and upper part of the thigh, and at its lower and posterior part.

They have received different names, from their positions. All the abdominal viscera, with the exception of the duodenum, the pancreas, and the kidneys, may form a hernia; but they are not all displaced with the same facility. The omentum, and intestinal canal, escape easily; but the stomach, the liver, and the spleen, form hernias more rarely. Most of the viscera, when displaced, push the peritoneum forward before them; this membrane thus forms an envelop of the hernia, which is called the hernial sack. If the hernia, with its sack, can be entirely replaced, it is said to be reducible; if, from its size, or other cause, it cannot be replaced, it is irreducible.

Among the predisposing causes of hernia, may be ranked any circumstances which diminish the resistance of the abdominal walls, whether natural or accidental; such as the defect of fleshy fibers, the weakening of the walls of the stomach by a forced distention, as in pregnancy or the dropsy;

or by an accident, as a wound. Any circumstance which tends to increase or relax the openings through which the vessels pass, as a violent extension of the body, long standing, etc., may have the same effect. Any prolongation of the viscera which tends to bring them in contact with points at which they may protrude, and articles of dress which push the organs towards the weaker parts of the abdominal wall, as corsets, may also produce the hernia. The efficient causes of the hernia, are, all circumstances which may break the equilibrium existing between the abdominal walls and the viscera, which react, and mutually press upon each other. The simultaneous contraction of the abdominal muscles and of the diaphragm, which takes place on every violent effort, is one of the chief of these causes. Hence, sneezing, coughing, leaping, playing on wind-instruments, etc., may be the occasions of a hernia.

The symptoms of hernia are, the existence of a tumor, or swelling, at any point of the abdomen, but particularly towards the opening of the vessels. A reducible hernia is not a very troublesome disease, but may become so, by acquiring an increase of size, and the strangulation to which it is liable. A hernia is said to be strangulated, when it is not only irreducible, but also subjected to a continual constriction, which may become fatal; this constriction may be produced by different causes, but it is generally produced by the opening through which the hernia protrudes.

As soon as a patient perceives that he is affected with a hernia, he should have recourse to medical advice; for the disease is then in its most favorable state for treatment. The hernia is immediately reduced, and must then be subject to a constant compression. This is done by means of the truss. An irreducible hernia must be supported with great care. All violent exercise, and excess in diet, must be avoided. The strangulated hernia, presenting greater danger, requires more prompt relief. The object of treatment is, to relieve the constriction. If the reduction cannot be effected by other means, an operation will be necessary. This consists in dividing the parts which produce the constriction. The longer this opera-

tion is delayed, the more dangerous it will become. After the parts are healed, the opening must be subject to compression, as in the case of simple hernia.

REMARK.—A few cases of simple hernia have been successfully treated by an application of our Stimulating Liniment. Spread a plaster, and wear it over the injured part. The parts must be continually compressed by a truss.

POLYPUS.

POLYPUS: in medicine, a name given to swellings which form chiefly in the mucous membranes, and were supposed to resemble the animal of the same name. These tumors are most common in the nostrils, the throat, the uterus, and are more rarely found in the stomach, the intestines, the bladder, or the external passage of the ear. Polypuses differ much in size, in number, mode of adhesion, and nature. One species is called *mucosus*, soft, or vesicular polypuses, because their substance is soft, spongy, vesicular, and, as it were, filled with white juices; another is called hard polypuses, and has been distinguished into the fibrous, or fleshy, and the scirrhus, or cancerous. The fibrous polypuses are of a dense, close texture, and of a whitish color; they contain few vessels, and do not degenerate into cancers. The scirrhus, or carcinomatous polypuses, are really cancerous painful tumors, which discharge blood, and exhibit all the pathological changes of cancerous affections.

TREATMENT.

Different modes of treatment must be adopted, according to the particular nature of the disease. In common cases, when the application can reach the polypus, or very nearly reach it, our Stimulating Liniment will destroy it in a few weeks. Blood-root, as a wash, externally applied, will also aid in effecting a cure. It also will be useful to take our Alterative Drops, in small doses, for some length of time.

D R O P S Y .

DROPSY: a preternatural collection of serous, or watery fluid, in the cellular substance, or different cavities of the body. It receives different appellations, according to the particular situations of the fluid. When it is diffused through the cellular membrane, either generally or partially, it is called *anasarca*; when it is deposited in the cavity of the cranium, it is called *hydrocephalus*; when in the chest, *hydrothorax*, or *hydrops pectoris*; when in the abdomen, *ascites*; in the uterus, *hydrometra*; and within the scrotum, *hydrocele*.

The causes of these diseases are, a family disposition thereto; frequent salivations; excessive and long-continued evacuations; a free use of spiritous liquors; scirrhusities of the liver, spleen, pancreas, mesentery, and other abdominal viscera; preceding diseases, as the jaundice, diarrhea, dysentery, phthisis, asthma, gout, intermittents of long duration, scarlet fever, and some of the exanthemata; a suppression of accustomed evacuations; the sudden striking in of eruptive humors; ossification of the valves of the heart; polypi in the right ventricle; aneurism in the arteries; tumors making a considerable pressure on the neighboring parts; permanent obstruction of the lungs; rupture of the thoracic duct; exposure for a length of time to a moist atmosphere; laxity of the exhalants; defect in the absorbents; topical weakness, and general debility.

The first of these species which we shall describe is *ascites*, or dropsy of the belly; a tense, but scarcely elastic, swelling of the abdomen, from accumulation of water. *Ascites* is often preceded by loss of appetite, sluggishness, dryness of the skin, oppression at the chest, cough, diminution of the natural discharge of urine, and costiveness. After the swelling has commenced, it increases until the whole belly becomes uniformly swelled and tense. The distention, and sense of

weight, vary somewhat with the position of the body, being greatest on the side on which the patient lies. As the collection of water becomes more considerable, the difficulty of breathing is much increased, the countenance exhibits a pale and bloated appearance, an immoderate thirst comes on, the skin is dry and parched, and the urine is very scanty, thick, and high-colored, and deposits a lacteritious sediment. The pulse is variable, being sometimes considerably quicker, sometimes slower, than is natural. The operation of tapping should be performed only where the distention is very great, and the respiration, or other important functions, impeded; and it will often be best not to draw off the whole fluid at once. Great care must be taken, also, to keep up a sufficient pressure, by a broad bandage over the abdomen, as even fatal syncope has arisen from the neglect of this. The contraction of the muscles will be promoted by friction. The remedies for this disease are, cathartics, diuretics, gentle friction of the abdomen with oil, etc. Tonic medicines, a nutritious diet, and, if the complaint appears to be giving way, such exercise as the patient can take without fatigue, with other means of improving the general health, ought not to be neglected.

Another species of dropsy is called *anasarca*. It is occasioned by a serous humor, spread between the skin and flesh, or rather, by a general accumulation of lymph in the cellular system. This species of dropsy shows itself, at first, by a swelling of the feet and ankles towards the evening, which, for a time, disappears again in the morning. The tumefaction is soft and inelastic, and, when pressed upon by the finger, retains its mark for some time, the skin becoming much paler than usual. By degrees, the swelling ascends, and occupies the trunk of the body; and, at last, even the face and eyelids appear full and bloated: the breathing then becomes difficult, the urine is small in quantity, high-colored, and deposits a reddish sediment; the belly is costive; the perspiration much obstructed; the countenance yellow; and a considerable degree of thirst, with emaciation of the whole body, prevail. To these symptoms succeed torpor, heaviness, a troublesome

cough, and a slow fever. In some cases, the water oozes out through the pores of the cuticle; in others, being too gross to pass through them, it raises the cuticle in small blisters; and sometimes the skin, not allowing the water to pass through it, is compressed and hardened, and is at the same time so much distended, as to give the tumor a considerable degree of firmness. In some few cases, the disease goes off by a spontaneous crisis, by vomiting, purging, etc. Where the quantity of fluid collected is such as to disturb the more important functions, absorption may be promoted by friction, and bandaging the parts, which will, at the same time, obviate further effusion; but most powerfully, by the use of different evacuating remedies, especially those which occasion a sudden considerable discharge of fluids. Emetics have been often employed with advantage; but it is necessary to guard against weakening the stomach by the frequent repetition of those which produce much nausea. Cathartics are of much greater, and more general utility. Diuretics are universally proper. It is very desirable to promote evacuation by the skin. Sometimes much relief is obtained by promoting perspiration, locally, by means of the vapor bath. Mercury has been much employed. Regular exercise, such as the patient can bear, ought to be enjoyed; and diligent friction of the skin, particularly of the affected parts, employed when the tumefaction is usually least, namely, in the morning. The cold bath duly regulated, may also, when the patient is convalescent, materially contribute to obviate a relapse.

The next species of dropsy which we shall consider, is *hydrocephalus*—dropsy of the brain, dropsy of the head. It is sometimes of a chronic nature, when the water has been known to increase to an enormous quantity, effecting a separation of the bones of the head, and an absorption of the brain. Pain in the head, particularly across the brow, stupor, dilatation of the pupils, nausea, vomiting, preternatural slowness of pulse, and convulsions, are symptoms of this disease.

Hydrocephalus is almost peculiar to children, being rarely known to extend beyond the age of twelve or fourteen; and

it seems more frequently to arise in those of a scrofulous and rickety habit, than in others. It is an affliction which has been observed to pervade families, affecting all, or a greater part of the children, at a certain period of their life; which seems to show that, in many cases, it depends more on the general habit, than on any local affection, or accidental cause.

The disease has generally been supposed to arise in consequence either of injuries done to the brain itself, by blows, falls, etc., from scirrhus tumors, or excrescences within the skull, from original laxity or weakness in the brain, or from general debility, and an impoverished state of the blood.

With respect to its proximate cause, very opposite opinions are still entertained by medical writers, which, in conjunction with the equivocal nature of its symptoms, prove a source of considerable embarrassment to the young practitioner.

When recoveries have taken place in hydrocephalus, we ought, probably, to attribute more to the efforts of nature, than to the interference of art. It is always to be regarded as of difficult cure. The treatment should be prompt and active. The inflammatory action should be lessened, and then absorption promoted. If the progress of the disease be arrested, the strength is to be established by a nutritious diet, and tonic medicines.

TREATMENT.

As the treatment for most of the forms of dropsy laid down in this article, is given in another part of this work, we shall confine ourselves to that of the limbs and abdomen.

1st. If the disease be in the feet and legs, the patient ought to soak the parts in weak lye or warm water, rub them upwards, while in the same, wipe dry, and apply the Stimulating Liniment thereto very freely. This ought to be repeated two or three times a day; and if the feet and limbs are much swollen, bandage the same at a time when the swelling is reduced, commencing at the toes. The limbs are generally swollen the most at night, and if the bandages are closely

confined on the limbs, in the morning the swelling will not recur.

2d. If the abdominal region be the seat of disease, apply the Liniment over that region freely, twice or three times a day, with much friction, and let there be a plaster of the same worn continually. *Much friction* must *not* be neglected. At the same time, let the patient take tonic and diuretic medicine, and keep the bowels free by gentle physic.

3d. If fever supervene, apply our remedies for fever. If, at the same time, as is frequently the case, the patient is affected with flatulency, the Essence of Life may be administered to the best advantage. A mucilaginous diet ought to be adopted. Gentle exercise, and pure air, are of much importance. Let the room be freely ventilated, and avoid all sudden changes of atmosphere.

The absorbents are more readily aroused by our remedies, than by any medicine which has heretofore been depended upon, in this disease.

CHAP. XI.

ANGINA PECTORIS—PAIN IN THE BREAST.

THIS was noticed as a distinct disease, until the attention of the profession was directed to it by Doctor Herberden, in a very perspicuous and full account of its peculiar character, published in the second volume of the Medical Transactions of the London College of Physicians. Since that time, it has been frequently and minutely described, and of late years especially, its phenomena and pathology have received much attention.

An acute pain at the lower end of the sternum (breast,) inclining rather to the left side, and extending up into the left arm, accompanied with great anxiety, and a sense of suffocation, are the characteristic symptoms of the disease. It is found to affect men much more frequently than women, particularly those who have short necks, who are inclined to corpulency, and who, at the same time, lead an inactive life. Although it is sometimes met with in persons under the age of twenty, still it more frequently occurs in those who are between forty and fifty.

In slight cases, and in the first stage of the disorder, the fit comes on by going up hill, or up stairs, or by walking at a quick pace, after a hearty meal; but as the disease advances, or becomes more violent, the paroxysm is apt to be excited by certain passions of the mind, by slow walking, by riding on horseback, or in a carriage, or by sneezing, coughing, speaking, or straining at stool. In some cases, the patient feels the attack between two and four o'clock in the morning, or whilst sitting or standing, without any previous irritation or obvious cause: on a sudden he is seized with acute pain in

the breast, or rather at the extremity of the sternum, inclining to the left side, and extending up into the arm, as far as the insertion of the deltoid muscle, accompanied by a sense of suffocation, great anxiety, and an idea that its continuance or increase, would certainly prove fatal. In the first stages of the disease, the uneasy sensation at the end of the sternum, with the other unpleasant symptoms, which seem to threaten a suspension of life, by a perseverance in exertion, usually go off, upon the person's standing still, or turning from the wind; but in a more advanced stage, they do not so readily recede, and the paroxysms are much more violent. During the fit, the pulse sinks in a greater or less degree, and becomes irregular; the face and extremities are pale, and bathed in a cold sweat; and, for a while, the patient is, perhaps, deprived of the powers of sense and voluntary motion. The disease having recurred, more or less frequently, during the space of some years, a violent attack at last puts a sudden period to his existence.

Angina pectoris is attended with a considerable degree of danger; and it usually happens that the patient is carried off suddenly. It mostly depends upon an ossification of the coronary arteries, and then we never can expect a radical cure. During the paroxysms, considerable relief is to be obtained from fomentations, and by administering powerful antispasmodics; by applying fomentations, by wetting flannels with the tincture of myrrh, and applying them to the sternum, or part most affected. It is also necessary to give laxatives, to keep the bowels open. A particular attention should be paid to diet. The celebrated Odier of Geneva, restricted his patients to an extremely spare and simple diet, as the best means, in his opinion, for preventing the return of the disease. Doctor Good advises that the patient be immediately placed in an inclined position, the head raised high, and an emetic instantly administered. It is said that Percival was the first that recommended emetics in the paroxysm of the disease. Richter admits that much relief may sometimes be obtained from vomits; but he asserts that they may also readily do a great

deal of harm. Doctor Eberle is of opinion that, where the oppression in the chest is great, and the habit is robust and plethoric, blood-letting will occasionally give some relief. He states also: "Indeed, venesection may very readily prove injurious in this complaint; it ought not to be used unless the indications for employment are unequivocal." Doctor Parry, who particularly advocates the practice of venesection in this complaint, advises that the blood should be taken from a small orifice, the patient being placed in a horizontal position, while the physician is to keep his finger on the pulse, to decide the limits to which venesection is to be carried. The treatment I have generally known to give the most relief in this disease, is to bathe the feet frequently, keep up perspiration, use emetics freely, and keep the bowels open."

TREATMENT.

We have been enabled effectually to remove very many long-standing cases of pain in the breast, by a much more simple treatment than that which is recommended in this article.

Our Stimulating or Nerve Liniment, applied to the breast, and sometimes between the shoulders, has been used to much advantage, giving very ready and permanent relief. The Vegetable Syrup, Pectoral Tincture, and Essence of Life, administered internally, will be of much service; and sometimes the Pectoral Tincture may be taken in doses to cause vomiting. It may be advisable in some cases, to administer medicine to cause a powerful perspiration; and in some instances the Liniment may be used freely at the breast, for the purpose of causing an abraded surface, which generally affords sudden relief.

It is admitted in the above quotations, that venesection is sometimes dangerous. With the application of our remedies we have uniformly been enabled to relieve the patient without recourse to it.

OBSTRUCTED MENSTRUATION.

AMENORRHEA, (obstructed menstruation,) is a total or partial obstruction of the menses, in women, from other causes than pregnancy or old age. The menses should be regular, as to quantity and quality; and that the discharge should observe the monthly period, is essential to health. When it is obstructed, nature makes her efforts to obtain for it some other outlet. When these efforts of nature fail, the consequences may be, pulmonic diseases, spasmodic affections, epilepsy, apoplexy, etc., etc., according to the general habit of the patient.

The causes of the suppression of the menses appear mostly to operate by inducing a constriction of the extreme vessels, such as cold, fear, and other distressing passions; an indolent life, abuse of acids, etc. It is sometimes symptomatic of other diseases, in which considerable debility occurs, as phthisis pulmonalis. When the discharge has been some time interrupted, particularly in persons previously healthy, hemorrhages will often happen from other outlets—the nose, stomach, lungs, etc.; even, in some instances, a periodical discharge of blood from an ulcer, has occurred. The patient generally becomes obstinately costive, often dyspeptic; pains in the bowels, and various hysterical symptoms, are likewise apt to attend the patient.

TREATMENT.

The means chiefly efficacious in restoring the uterine functions, are those calculated to relax spasms, assisted sometimes by an increased arterial action, particularly in prostrated cases.

In all cases of this complaint, our Nerve Liniment is an invaluable remedy. Let it be applied to the abdomen, back, and loins, and apply our Stimulating Liniment to the breast and feet. Let the Vegetable Syrup, Pectoral and Female Drops,

and Balsam of Life, be taken according to directions. This course of treatment, persevered in, has uniformly relieved the patient. If the patient be plethoric, instead of venesection a profuse perspiration may be induced, a few times, and relief will be gained without any diminution of strength. It may be necessary to accompany the other means with a gentle cathartic; but this will seldom happen, as the Syrup will regulate the bowels. During this treatment, the patient may take some tonic bitters, in wine. All exposure to cold, or damp air, ought to be avoided. Eat sparingly of easily digested food, and enjoy gentle exercise. When there are evidently other forms of disease accompanying this complaint, let them be treated as recommended in other parts of this work.

MORTIFICATION.

MORTIFICATION, in medicine, is the death of a part of the body, while the rest continues alive, and often in a sound state. If the part be a vital organ, as the lungs, its death must necessarily be followed by that of the whole person. Mortification is called *gangrene*, and *sphacelus*, when occurring in soft or fleshy parts, as in the stomach or in the limbs; and *caries*, when in a bone, as in the spine, in the skull, etc. It is caused by violent inflammation; by exposure to freezing cold; by hospital fevers; by languid, or impeded, or stopped circulation, as in cases of bed-ridden or palsied persons; and by improper food, particularly the spurred or mildewed grain.

It may be recognized, when preceded by inflammation, by the following signs: Subsidence of pain, heat, and redness; loss of sensibility; brown lividity; blistered skin, with bloody serum in the vesicles; offensive odor occurring in the part, and by a small, rapid, intermitting pulse; by shiverings, followed by cold sweat, diarrhea, delirium, hiccough, dejection of spirits, and by a wild, cadaverous countenance. When a part having been frozen is suddenly exposed to heat, mortification rapidly ensues: the part becomes florid; inflammation

is unsuccessfully attempted, and sphacelus is the result. In the above species, a distinctly marked line divides the dead and living portions; often a healthy suppuration ensues.

Mortification is common in the fevers, wounds, and injuries, of the crowded jails and military hospitals of Europe. This gangrene is considered contagious by some surgeons, the nurses and orderlies suffering from ulcers and sloughs on their hands, when touched with the sponges used in cleansing the sick. The same effect is produced on the sound portions of the skin of the sick. This hospital gangrene is distinguished by its rapid spread to contiguous parts, as from fingers to arms; by the oozing of grumous blood; by horrible fetor; by fatal depression of spirits; and by the sullen despair of patients who, on the day of battle, or of amputation, were the bravest of the brave. Sometimes the cutting of a nail to the quick, or a slight bruise, will induce gangrene in old and debilitated persons. *Mildew mortification* differs from other kinds in appearance and process, beginning with numbness and coldness in the fingers or toes, without fever, but with spasms, and hebitude of mind; it separates arms, or legs, thighs, and nose. It is oftener found among the voluptuous rich, than in the laboring poor—in large eaters, than in free drinkers. It is thought to be connected with a diseased state of the digestive organs, and great nervous debility. Mr. Pott sometimes checked it by opium, in a few days; and after the dropping off of the affected parts, the patient recovered health. There is a dry gangrene, to which palsied persons, as well as others, are liable, which slowly destroys the limb, and commonly without inflammation or putrefaction. This is sometimes explained by the absence of warmth, and moisture, and air, which are removed by preceding atrophy; the color livid, though sometimes nearly natural. When the bones of the leg mortify, or become carious, new osseous matter is provided, in sound constitutions. This process, occupying years when left to nature, is much accelerated by the artificial removal of the dead bone.

TREATMENT.

When the circulation is languid, as in lying-in women, and palsy and gangrene supervene, we have been enabled to arrest its progress by our stimulating agents externally applied; but they must be used in the most profuse manner. At the same time, give our Diaphoretic Drops internally. In all cases of mortification, from whatever cause it may arise, it is necessary to give action to the internal organs, as well as to the surface. When the digestive powers are in a measure destroyed, a plaster of our Stimulating Liniment ought to be worn on the breast, repeatedly and often renewed.

If the disease be occasioned by freezing, a full and continued use of our Liniment will usually arrest its progress. If the limbs be cold, and have little appearance of inflammation, they must be warmed up by the same means. Sometimes the Nerve Sanative may be used for that purpose, as it is composed of the most powerful antiseptic medicines.

But in all cases, whether inflammation appear, or the parts appear to be palsied, these preparations ought to be resorted to rather than sedatives; as opium does nothing more than palliate, for the present, whereas our remedies give free action to all the circulating fluids, whereby the disease is arrested.

A T R O P H Y .

ATROPHY is a deficient nourishment of the body. There are many diseases in which the body becomes daily more lean and emaciated; appears deprived of its common nourishment, and for that reason, of its common strength. It is only, therefore, in those cases in which the emaciation constantly increases, that it constitutes a peculiar disease; for when it is merely a symptom of other common diseases, it ceases with the disease, as being merely a consequence of great evacuations, or of the diminished usefulness or imperfect digestion

of the nourishment received. But when emaciation, or atrophy, constitutes a disease by itself, it depends upon causes peculiar to this state of the system. These causes are, permanent, oppressive, and exhausting passions; organic disease; a want of proper food, or of pure air; exhausting diseases, as nervous or malignant fevers; suppurations in important organs, as the lungs, the liver, etc. Copious evacuations of blood, saliva, semen, etc., are also apt to produce this disease; and on this account, lying-in women, and nurses who are of slender constitution, and those who are too much addicted to venery, are often the subjects of this complaint. This state of the system is also sometimes produced by poisons; namely, arsenic, mercury, lead in miners, printers, gilders, etc. A species of atrophy takes place in old people, in whom an entire loss of strength and flesh brings on a termination of life without the occurrence of any positive disorder. It is known as the *marasmus senilis*, or atrophy of old people. Atrophy is of frequent occurrence, in infancy, as a consequence of improper, unwholesome food; exposure to cold, damp, or impure air, etc., producing a superabundance of mucus in the bowels, worms, obstructions of the mesenteric glands, followed by extreme emaciation: which states of things are often fatal, although the efforts of the physician are sometimes successful, when all the causes of the disease have been previously removed. A local state of the same kind is sometimes produced in single limbs, by palsies, or the pressure of tumors upon the nerves of the limb, etc., and is generally curable by removing the cause.

TREATMENT.

Our most stimulating agents, externally applied, are competent to overcome this disease; at the same time, tonics, and a due regard to regimen, may be necessary, in severe cases. A number of cases of atrophy have come under our observation—some cases of old men, who were remarkably relieved in a very short time.

LEPROSY.

LEPROSY; a name given to several different diseases. The elephantiasis is sometimes called *leprosy of the Arabs*. The *leprosy of the Jews*, is distinguished by white, cutaneous spots, composed of smaller spots, which appear sometimes in one place, and sometimes in another, and are covered with a rough, scaly matter. It appears to have been the *leuce* of the Greek writers. The Greek leprosy is characterized by hard, insensible tubercles, which appear upon the skin, and are accompanied by a progressive insensibility, and the loss of the voice. It is endemic in Egypt, Java, and some parts of Norway and Sweden.

The use of unhealthy articles of food seems to be one of its causes. It is hereditary and contagious. It was introduced into Western Europe, in the time of the Crusades, but has gradually disappeared. The tubercles which characterize leprosy, appear in different parts of the skin; they are hard, rough, and numerous, and cause the loss of the hair, at the places where they appear. They finally terminate in ulcers, which penetrate even to the bone, producing a caries. They also cause the suppuration of parts of the body, the toes and fingers, for example, dropping off. These symptoms are accompanied with a languor in the motions, a dullness of the sense, a change of the voice, offensive breath, and lethargy.

There are three sorts of leprosy—the squamous, or scaly; the crustaceous, in which the skin is covered with crusts; and the tuberculous. The remedy recommended for this disgusting disease, is light food, such as vegetables, soups, milk. All remedies are too frequently unavailing.

In the middle ages, leprosy, under all the forms of disease to which this term has been applied, seems to have been very common and general. It should, however, be observed, that almost all cutaneous disorders were considered as of a leprous nature, and treated as such. From the sixth to the fifteenth

century, these loathsome diseases attracted the attention of the lawgivers, and of the benevolent, and we find numerous ordinances relating to lepers, affecting their civil rights, and great numbers of lazar-houses in all the countries of Europe. In the historians of those times, therefore, we are to consider the word *leprosy*, as used indiscriminately of all cutaneous diseases; and we may well be astonished and shocked to find that all such patients were treated somewhat after the manner prescribed in Leviticus, for the Jewish leprosy. They were in fact, treated as civilly dead. Their funeral obsequies were performed, and masses said for the benefit of their souls. Their marriage ties were dissolved, but a leper might enter into a new connection with a person who was also afflicted with the disease. They were allowed to enter the cities at certain seasons, but were required to give notice of their approach, by sounding a rattle. The consequences of such a treatment, may be easily imagined. The improved condition of the lower classes, in food, clothing, and manner of living, in general, and the advancement of medical science, have contributed to eradicate this loathsome and disgusting malady.

TREATMENT.

Though the leprosy has never afflicted our country, neither have our preparations ever been applied thereto, we contend that our powerful stimulants, antiseptics, and alteratives, are admirably adapted to the disease.

In all diseases, wherein there is some similarity to the leprosy, which have been treated with our remedies, they have been readily overcome. Our alteratives internally given, and our Stimulating Liniment externally applied, have a powerful effect in cutaneous or uterious diseases. They are more ready in removing gangrene, than any remedies with which we are acquainted. Many cases, where suppuration had taken place, and the bones been carious, have been cured by our preparations; and the facts are so striking, that we are enabled to substantiate them beyond the possibility of a doubt.

DIABETES.

THIS is an affection of a very peculiar nature, and which, both with respect to its origin, its approximate cause, and its treatment, has given rise to much controversy. Its most remarkable symptoms are, a great increase in the quantity of urine, a voracious appetite, a stoppage of the cutaneous perspiration, thirst, emaciation, and great muscular debility. The urine is not only prodigiously increased in its quantity, but likewise has its composition essentially changed. The urea, or constituent of the urine, is entirely removed, or exists in a very small proportion, while we find in its stead, a body possessing the physical and chymical properties of sugar. Whether diabetic differs essentially from vegetable sugar, is to be regarded more as a chymical question, than as what, in any respect, influences either the pathology or practice; and it has been a subject of controversy, whether there be a proper diabetes, *insipidus* that is, a disease attended with the increased discharge of urine, the voracious appetite, and the morbid state of the skin, but when the urine does not contain sugar. The disease has been attributed to improper diet; to the use of spirituous liquors; to large quantities of watery fluids; to exposure to cold, during perspirations; to violent exercise; and, in short, to every thing that might have a tendency to weaken the system, or to impair the digestive organs. Many or all of the above causes may have a tendency to bring the disease into action, though it is yet in dispute whether they be the producing causes.

The proximate has been no less a subject of controversy than the exciting cause; and on this point, two hypotheses have divided the opinions of pathologists: some have ascribed it to a primary affection of the stomach, and the function of assimilation; and others, to a primary disease of the liver.

TREATMENT.

Stimulants generally, tonics and diaphoretics, are considered indispensable in the treatment of the disease. We have succeeded in curing the complaint, by an application of our Vegetable Cerate, to the whole length of the urethra, and in the region about it; at the same time, apply the Stimulating Liniment on the back, bowels, and stomach. Take Diaphoretic Drops and Tonic Bitters; avoid the use of sugar, or any kind of sweet, and principally subsist on meat and bread. The saline bath may be used to great advantage in this complaint. It is also of much importance that the patient should avoid exposure to sudden changes of atmosphere.

CHAP. XII.

CONGESTION.

THE different parts of the human body do not always receive the same quantity of blood, but sometimes more, sometimes less. Thus, for instance, during digestion, it flows towards the stomach and the liver; during violent or long-continued speaking, singing, or running, it collects in the lungs and the heart; during close thinking, in the brain. In general, the blood flows in greater quantities into any part, in proportion to the action of that part; but, in a state of health, it flows off with as much rapidity as it collects. Sometimes, however, too much blood accumulates in an organ, and remains too long in it, and this injures the structure and the function of such an organ. This accumulation of blood arises from a diseased state of the system, and is called *congestion*.

Congestion may be occasioned by whatever, in general, accelerates the circulation of the blood, and causes it to tend to a particular part; thus, for instance, among the causes of congestion, are the different periods of development of the human body, each of which renders some particular organ unusually active; the crisis of disease; and, lastly, the accidental exertions of certain organs. Under such circumstances, congestion is produced by an excited state of the arteries in general, and of some particular ones especially. Secondly, if the current of blood to one organ is checked, it accumulates in another. Hence colds caught through exposure of the feet, also the suppression of the secretions, etc., so often cause congestion. Thirdly, the vessels which bring back the blood (the veins) are sometimes in a condition unfit to answer their destination; as, for instance, if they are already too full; if their power to

receive the blood, and to propel it, is lost or diminished; or if they are prevented from performing their functions by external pressure, or by tumors. Hence congestions are divided into active and passive; those of the arteries, and those of the veins.

Where the blood accumulates, the part becomes red and hot, the pulse beats more violently, and the veins expand; the part swells, and a feeling of sickness, pain, pressure, etc., comes on. The functions of the part change; if the congestion is slight, they become more active. In higher degrees of congestion, and if it is continued for a long time, the functions are checked, weakened, and sometimes entirely destroyed. Now, as every organ has its peculiar function, it follows, that the symptoms of congestion resting on these grounds, must be very different, according to the different organs in which it takes place. During the congestion of blood in one organ, the other organs exhibit symptoms of want of blood; viz: coldness, paleness, diminution of size, and weakness.

Congestion generally lasts but a short time; but if not early cured, and its return, which would otherwise be frequent, prevented, it is only the beginning of other diseases. Sometimes it terminates in bleeding, which is a bad remedy for it; sometimes it increases into inflammation; sometimes it becomes a chronic disease—that is, the blood accumulates for a long time, and expands the veins; the expansion becomes permanent, and the original excitement is succeeded by a state of torpidity and weakness, which is called *stagnatio*, or *infractus*.

TREATMENT.

In all cases of congestion, our Liniments and Diaphoretic Drops may be depended upon to afford very speedy relief. The Liniment externally applied to the body generally, and particularly to the head and feet, will cause a free circulation of the blood, and relief is the natural result.

ICTERUS, OR JAUNDICE.

JAUNDICE, according to Doctor Thomas' description, is manifested by a yellowness of the skin, more especially observable in the tunica conjunctiva of the eyes; a bitter taste in the mouth; a sense of pain or uneasiness in the right hypochondrium; whitish, or clay-colored fæces, and the urine obscurely red, tinging things dipped into it with a yellowish color. It takes place most usually, in consequence of an interrupted secretion of the bile, from an obstruction in the *ductus communis choledochus*, which occasions its passing again into the blood-vessels. In some cases, however, it may be owing to a redundant secretion of the bile. The causes producing the first of these are, the presence of biliary calculi in the gall bladder and in its ducts; inspissated bile; spasmodic constriction of the ducts themselves; and lastly, the pressure made by tumors situated in adjacent parts: hence jaundice is an attendant symptom on chronic inflammation or scirrhusity of the liver, pancreas, etc., and also, frequently, on pregnancy.

The proximate cause of icterus, or jaundice, is an absorption, or regurgitation of the bile into the vascular system. Chronic bilious affections are frequently brought on by drinking freely, but more particularly by spiritous liquors; hence they are often to be observed in dram-drinkers. They are likewise to be met with in those who lead a sedentary life, and who indulge much in anxious thoughts. A slight degree of jaundice often proceeds from a redundant secretion of the bile; and a bilious habit is, therefore, constitutional to some people, but more particularly those who reside long in a warm climate. By attending to the various circumstances and symptoms which present themselves, we shall, in general, be able to ascertain with much certainty the real nature of the cause of the disease.

Nature has contrived that each part of the body should perform its proper duty in maintaining health; and if there were no obstructions, there never would be any disease. The gall-bladder grows on the liver, and is placed between that and the stomach; so that when the latter is filled with food, the bile is discharged into the stomach to digest it. The bile never makes disorder, for it is perfectly innocent, being nature's friend; and those appearances called bilious, show the effect of the disease, and not the cause. The gall is a very bitter substance; and it is the practice of physicians to order bitter medicines to cure the jaundice. This seems to be the universal opinion, which is correct, although it certainly contradicts the notion that there is too much bile: if there be too much, why give medicine to make more? As it is evident that the jaundice is an affection which is diffused through the whole system, the only means to clear the system of it is to use such medicines as will remove the corrupted humors, and those that will assist and open the glands and secretory vessels, in discharging the serosity or enemy that has entered into the system.

TREATMENT.

Though jaundice is a disease which has baffled the skill of many learned physicians, an effectual cure is so ready, simple, and certain, with our remedies, that it will require but a short statement of the mode of treatment:—

1st. Let the Fever Liniment be applied, as in bilious fever, accompanied with our Pectoral Tincture, in doses sufficient to cause vomiting and cleanse the stomach. This will cause a powerful perspiration, and the secretory organs will perform their office. If the appetite be poor, the Stimulating Liniment ought to be applied to the stomach freely, and repeated twice or thrice a day. If the patient be costive, gentle cathartics may be administered.

2d. A tea made of seneca snake-root, and, as a change, smart-weed tea, may be given as a common drink.

This course will effect a cure, if persevered in, if relief can be gained by the use of any medicine known, or a cure be possible.

NERVOUS DISEASES.

NERVOUS diseases are such as consist in disturbed affections of sense and motion, unattended by any chronic or acute inflammation, or hemorrhage, or by any disturbance of the circulation. Nervous pains are called *neuralgia*. Spasms are involuntary contractions in organs which have muscular fibers, or which are merely susceptible of contraction; convulsions are involuntary and irregular contractions, alternating with relaxations, in one, or several, or all of the muscles, simultaneously or successively. Tetanus is a permanent contraction of a certain class of muscles, ordinarily followed by death. Contraction is a retraction of the flexor muscles of one member, or of two parallel members. Paralysis is the diminution or loss of sensibility in an organ of sense, or the contractility in an organ of motion.

The pains, spasms, paralyzes, take different names, according to the parts affected. The most remarkable of all the *neuroses*, is apoplexy, which is characterized by the suspension, or successive loss of sense and understanding, as well as motion. The affections of the mind, known under the names of mental alienation, insanity, idiocy, etc., are also *neuroses*; that is, disturbances in the action of the nervous system. It has been asserted, that nervous diseases are rendered more common by the progress of civilization; and in fact, the nerves become more irritable, and therefore more liable to be diseased, with the progress of intelligence. But the refinement of the moderns in their food and drinks; in the use of fermented liquors, wine, coffee, and tea, is the most common cause of nervous maladies. The early and excessive use of these liquors, provokes the nerves and diseases the stomach, and gives rise to cerebral fevers in children, to the vapors or

hysterics in women, and to hypochondria, apoplexy, and paralysis, in men. It is not always easy to distinguish the symptoms of neurosis from those of inflammation; but, as the treatment in the two cases must be entirely different, it is of the greatest importance to use every caution in this respect. Particular medicines, which were considered as specific remedies in nervous diseases, were formerly in use; but experience has proved the superiority of warm bathing, soothing drinks, vegetable diet, exercise, and recreations. The treatment of nervous diseases, however, has often embarrassed the scientific practitioner, as they often resist the most skillful and sagacious applications.

REMARK.—Notwithstanding nervous affections are considered the most difficult to be overcome, it is with peculiar pleasure we are enabled to state, that the variety of preparations we have compounded for the various forms of neuralgia, have heretofore been competent to every exigency; even the maniac has been restored to right reason; the sufferer from tic douloureux, fits, Saint Vitus' dance, spasms, hysteria, etc. etc., all have been benefited by our remedies. There has been so much recorded in this work on the subject, that whoever reads it, will not remain in doubt, or at a loss in what manner to treat almost every form of the disease.

TIC DOULOUREUX—NEURALGIA.

NEURALGIC pains, generally, are not produced by any appreciable organic lesion; they occur in every part of the body, and often return periodically. The disease is most frequently partial; sometimes, though rarely, it is general; and is not necessarily attended by fever. The tic douloureux is a striking example of this affection; writers on the subject have classed it as a surgical disease—but the facts which we have brought to light by the unparalleled success we have had in relieving it by an application of our remedies, has proven beyond a doubt that it ought to be treated with medical means.

The bladder, the stomach, and the bowels, and, it would appear, the heart also, are liable to be affected by neuralgia. The most troublesome, and most frequent forms of the disease, are those abdominal pains which affect women, more particularly at the menstrual periods, which shoot down the thighs. They sometimes appear to begin in the back, and extend towards the abdomen; in which case, the bowels are generally found obstinately costive. When this is the case, the patient will find a sure relief from costiveness, by the exhibition of our Vegetable Syrup. More permanent relief will be gained by this course, than can be expected by a resort to cathartics. Affections of the bladder frequently supervene, particularly if the attack come on during the menstrual period.

The causes of neuralgic pains are frequently unknown and obscure; but they may be traced occasionally to the organs connected with digestion, and in some instances probably may be connected with diseases of the spinal marrow, or in the nerves themselves. Sometimes in *tic douloureux*, the pain has left the part affected, and has attacked another nerve in the vicinity—a strong proof that the disease is more deeply rooted in the system than is commonly imagined. When this occurs, a full application of our Nerve Liniment to the region newly affected, must be adopted, and at the same time make an application over the whole body.

TREATMENT.

In the treatment of neuralgic affections, proper regulation of the bowels, diet, and habits of the patient, and avoiding exposures in damp weather, are all points of the utmost importance. In addition to the use of our Nerve Liniment, Syrup, Diaphoretic Drops, and Pectoral Tincture, we would recommend tonic bitters, and a common drink to be made of American valerian. The wearing a plaster over the abdominal region, of our Stimulating Liniment, and small plasters of the same on the bottoms of the feet, have been found useful: sometimes the saline bath, accompanying the other prescrip-

tions, has been beneficial. With a persevering course as above directed, the patient is sure of some relief; and in most cases, a radical cure will follow. We have witnessed a number of cases of tic douloureux of very distressing character, which have been overcome by an application of our Nerve Liniment alone—though we would recommend a full course of the remedies, as being more safe, and sure of effecting a perfect cure. A vast number of cases of neuralgic affections, have been successfully treated by our remedies. We are enabled to dispense with narcotics entirely—we remove pain by giving action to the circulating fluids, relaxing the muscles, and at the same time giving strength to the system.

CHAP. XIII.

CRETINISM—SWELLED NECK—BRONCHOCELE.

CRETINISM makes a very close approach to rickets, in its general symptoms. It differs principally in its tendency to that peculiar enlargement of the thyroid gland, which, in France, is denominated *goitre*, and in the mental imbecility which accompanies it from the first. The enlargement of the gland does not always, however, accompany the other symptoms, though it does generally.

Cretinism was first distinctly noticed and described by Plater, about the middle of the seventeenth century, as occurring among the peasants in Carinthia, and the Valais. It was afterwards found, in a still severer form, in other valleys of Switzerland, and the Alps generally. It has since been detected in various other regions, where the country exhibits similar features, as among a miserable race, called *cagots*, inhabiting the hollows of the Pyrenees, whose district and history have been described by Mr. Raymond; and in Chinese Tartary, where it is represented as existing, by Sir George Staunton.

On the first discovery of cretinism, it was ascribed by some to the use of snow water, and by others to the use of water impregnated with calcareous earth, both of which opinions are without foundation. The first is sufficiently disproved by the fact, that persons born in places contiguous to the glaciers, and who drink no other water, than what flows from the melting ice and snow, are not subject to this disorder; and on the contrary, that the disorder is observed in places where snow is unknown. The second is contradicted by the fact, that the common water of Switzerland, instead of being im-

pregnated with calcareous matter, excels that of most other countries in Europe, in purity and flavor. The water usually drank at La Batea and Martigny, is from the river Dranse, which flows from the glacier of St. Bernard, and falls into the Rhone. It is remarkably free from earthy matter, and well-tasted. At Berne, the water is extremely pure; yet, as Haller remarks, swellings of the throat are not uncommon in both sexes, though cretinism is rare. As comfortable and congenial warmth, forms one of the best auxiliaries in attempting the cure of both cretinism and rickets, there can be no doubt the chill of snow water must considerably add to the general debility of the system, when laboring under either of these diseases, though there seems no reason for supposing that it would give rise to either. It is not difficult to explain why water, impregnated with calcareous earth, should have been regarded as the cause; for in cretinism, as in rickets, the calcareous earth, designed by nature for the formation of the bones, is often separated, and floats loose in various fluids of the body, for want of a sufficiency of phosphoric acid, to convert it into a phosphate of lime, and give it solidity. And as it is, in consequence, pretty freely discharged in the urine, this seems to have given rise to the opinion, that such calcareous earth was introduced into the system, with the common water of the lakes or rivers, and thus produced the morbid symptoms. M. de Saussure has assigned the real cause of the disease. The valleys of the Alps, he tells us, are surrounded by very high mountains, sheltered from currents of fresh air, and exposed to the direct, and, what is worse, the reflected rays of the sun. They are marshy, and hence the atmosphere is humid, close, and oppressive; and when to these causes we add the meagre, innutritious food of the poor of these districts, their indolence and uncleanness, with a predisposition to the disease, from a hereditary taint of many generations, we can sufficiently account for the prevalence of cretinism, in such places, and for the humiliating character which it assumes.

The general symptoms of cretinism are the same as those of rickets; but the disease shows itself earlier, often at birth, and not unfrequently before this period, apparently commencing with the procreation of the fœtus, and affording the most evident proofs of ancestral contamination. The child, if not deformed and diseased at birth, soon becomes so; the body is stunted in its growth, and the organs in their development.

TREATMENT.

Testimony appears in this work, of a number of cases of swelled neck, which have been reduced by our remedies, and reference thereto will enable the reader to learn the course which has been successfully adopted.

PHLEGMASIA DOLENS—SWELLED LEG.

THIS disease principally affects women in the puerperal state; in a few instances it has been observed to attack pregnant women. Women of all descriptions are liable to be attacked by it, during or soon after child-bed; but those whose limbs have been pained or anasarcaous during pregnancy, and who do not suckle their offspring, are more especially subject to it. It has rarely occurred oftener than once to the same female. It supervenes to easy and natural, as well as to difficult and preternatural births. It sometimes makes its appearance in twenty-four or forty-eight hours after delivery, and at other times, not till a month or six weeks after; but, in general, the attack takes place from the tenth to the sixteenth day of the lying-in. It has, in many instances, attacked women who were recovering from puerperal fever; and in some cases, has supervened or succeeded to thoracic inflammation. It not uncommonly begins with coldness and rigors; these are succeeded by heat, thirst, and other symptoms of pyrexia; and then pain, stiffness, and other symptoms of topical inflammation supervene. Sometimes the local affection is, from the

first, accompanied with, but is not preceded by, febrile symptoms. Upon other occasions, the topical affection is neither preceded by puerperal fever, nor rigors, etc.; but soon after it has taken place, the pulse becomes more frequent, the heat of the body is increased, and the patient is affected with thirst, headache, etc. The pyrexia is very various in degree, in different patients, and sometimes assumes an irregular remittent or intermittent type. The complaint generally takes place on one side only at first, and the part where it commences is various; but it most commonly begins in the lumbar, hypogastric, or inguinal region, on one side, or in the hip, or top of the thigh, and corresponding labium pudendi. In this case, the patient first perceives a sense of pain, weight, and stiffness, in some of the above mentioned parts, which are increased by every attempt to move the pelvis, or lower limb. If the part be carefully examined, it generally is found rather fuller or hotter than natural, and tender to the touch, but not discolored. The pain increases, always becomes very severe, and in some cases, is of the most excruciating kind. It extends along the thigh, and when it has subsisted for some time, longer or shorter in different patients, the top of the thigh, and the labium pudendi become greatly swelled, and the pain is then sometimes alleviated, but accompanied with a greater sense of distention. The pain next extends down to the knee, and is generally most severe on the inside and back of the thigh, in the direction of the cutaneous and the crural nerves; when it has continued for some time, the whole of the thigh becomes swelled, and the pain is sometimes relieved. The pain then extends down the leg to the foot, and is commonly most severe in the direction of the posterior tibial nerve; after some time, the part last attacked begins to swell, and the pain abates in violence, but is still very considerable, especially on any attempt to move the limb. The extremity being now swelled throughout its whole extent, appears perfectly or nearly uniform, and it is not perceptibly lessened by an horizontal position, like an œdematodes limb. It is of the natural color, or even whiter; is hotter than natu-

ral; excessively tense, and exquisitely tender when touched. When pressed by the finger in different parts, it is found to be elastic, little, if any, impression remaining, and that only for a very short time. If a puncture or incision be made into the limb, in some instances, no fluid is discharged; in others, a small quantity only issues out, which coagulates soon after; and in others, a large quantity of fluid escapes, which does not coagulate; but the whole of the effused matter cannot be drawn off in this way. The swelling of the limb varies, both in degree and the space of time requisite for its full formation. Instead of beginning invariably at the upper part of the limb, and descending to the lower, the complaint has been known to begin in the foot, the middle of the leg, the ham, and the knee. In whichever of these parts it happens to begin, it is generally soon diffused over the whole of the limb; and, when this has taken place, the limb presents the same phenomena, exactly, that has been stated above, as observable when the inguen, etc., are first affected. After some days, generally from two to eight, the febrile symptoms diminish, and the swelling, heat, tensions, weight, and tenderness of the lower extremity, begin to abate; first, about the upper part of the thigh, or about the knee, and afterward in the leg or foot. Some inequalities are found in the limb, which at first feel like indurated glands, but upon being more nicely examined, their edges are not so well defined, as those of conglobate glands; and they appear to be occasioned by the effused matter being of different degrees of consistence in different points. The conglobate glands of the thigh and leg, are sometimes felt distinctly, and are tender to the touch, but are seldom materially enlarged; and, as the swelling subsides, it has happened that an enlargement of the lymphatic vessels, in some part of the limb, has been felt, or been supposed to be felt. The febrile symptoms having gradually disappeared, the pain and tenderness of the limb much relieved, and the swelling and tension being considerably diminished, the patient is debilitated and much reduced, and the limb feels stiff, heavy, benumbed, and weak. When the finger is pressed strongly

against it for some time, in different points, it is found to be less elastic than at first, in some places retaining the impression of the finger for a longer, in other places for a shorter time, or scarcely at all. And if the limb be suffered to hang down, or if the patient walk much, it is found to be more swelled in the evening, and assumes more of the œdematodes appearance. In this state the limb continues for a longer or shorter time, and is commonly at length reduced wholly, or nearly, to the natural size.

Hitherto the disease has been described as affecting only one of the inferior extremities, and as terminating by resolution, or the effusion of fluid that is removed by the absorbents; but, unfortunately, it sometimes happens, that after it abates in one limb, the other is attacked in a similar way. It also happens, in some cases, that the swelling is not terminated by resolution; for sometimes a suppuration takes place in one or both legs, and ulcers are formed which are difficult to heal. In a few cases, a gangrene has supervened. In some instances, the patient has been destroyed by the violence of the disease, before either suppuration or gangrene have happened. The predisposing causes of this disease, when it occurs during the pregnant or puerperal state, or in a short time afterwards, appear to be, 1st. The increased irritability and disposition to inflammation, which prevail during pregnancy, and in a still higher degree for some time after parturition. 2d. The over-distended, or relaxed state of the blood-vessels of the inferior part of the trunk and of the lower extremities, produced during the latter months of utero-gestation. Among the exciting causes of this disease, may be enumerated, 1st. Contusions, or violent exertions of the lower portions of the abdominal and other muscles inserted in the pelvis, or thighs, or of the muscles of the inferior extremities, and distentions of the cellular texture connected with these muscles, during a tedious labor. 2d. The application of cold and moisture, which are known to act very powerfully upon every system, in changing the natural distribution of the circulating fluids; and, consequently, in a system predisposed by parturition,

may assist in producing the disease, by occasioning the fluids to be impelled, in unusual quantity, into the weakened vessels of the lumbar, hypogastric, and inguinal regions, and of the inferior extremities. 3d. Suppression, or diminution of the lochia, and of the secretion of milk, which, by inducing a plethoric state of the sanguiferous system, may occasion an inflammatory diathesis, may favor congestion, and the determination of an unusual quantity of blood to the vessels of the parts first mentioned, and thus contribute to the production of an inflammation of these parts. 4th. Food taken in too large quantities, and of a too stimulating quality, especially when the patient does not give suck. This cause both favors the production of plethora, and stimulates the heart and arteries to more frequent and violent action; the effects of which may be expected to be particularly felt in the lumbar, hypogastric, or inguinal regions, and in the lower extremities, from the state of their blood-vessels. 5th. Standing, or walking too much, before the arteries and veins of the lower half of the body have recovered sufficiently from the effects of the distention which exists during the latter months of pregnancy. This must necessarily occasion too great a determination of blood to these parts, and consequently, too great a congestion in them; whence they will be more stimulated than the upper parts of the body, and inflammation will sometimes be excited in them.

TREATMENT.

In the first place, we would recommend the portion of the affected limb to be kept as much as possible in a horizontal position, cushioned, in such a manner as to admit a free circulation of the blood. Let the limb be rubbed twice a day with our Stimulating Liniment; apply plasters of the same to the bottoms of the feet. Bandages may be applied, commencing at the foot and bandage upwards. Once in two or three days, steam the limb with bitter herbs, and then apply the Liniment as before directed. Let the patient take our

Alterative Drops in small doses, three or four times a day, say twelve or fifteen drops at a time; take the Vegetable Syrup two or three times a day. It would be well to apply bottles of hot water to the feet, and along the limb, to cause perspiration, and to assist in the more readily causing a free circulation of the blood. Meats and oily substances are to be avoided in the diet. Sometimes it will require a number of weeks to restore the limb to its usual soundness. But we have known many cases overcome in a short time, by faithfully persevering in the above prescriptions.

HYDROCEPHALUS;

A GENUS of diseases arranged by Cullen in the class cachexia, and order intumescentiæ. It is distinguished by authors into external and internal. 1. *Hydrocephalus externus*, is a collection of water between the membranes of the brain. 2. *Hydrocephalus internus*, is when a fluid is collected in the ventricles of the brain, producing dilatation of the pupils, apoplexy, etc. It is sometimes of a chronic nature, when the water has been known to increase to an enormous quantity, effecting a diastasis of the bones of the head, and an absorption of the brain. Pain in the head, particularly across the brow, stupor, dilatation of the pupils, nausea, vomiting, and preternatural slowness of the pulse.

Hydrocephalus is almost peculiar to children, being rarely known to extend beyond the age of twelve or fourteen; and it seems more frequently to arise in those of a scrofulous and rickety habit, than in others. It is an affection which has been observed to pervade families, affecting all, or a greater part of the children, at a certain period of their life; which seems to show that, in many cases, it depends more on the general habit, than on any local affection or accidental cause. The disease has generally been supposed to arise in consequence either of injuries done to the brain itself, by blows, falls, ect., from scirrhus tumors or excrescences within the

skull, from original laxity or weakness in the brain, or from general debility and an impoverished state of the blood.

With respect to its proximate cause, very opposite opinions are still entertained by medical writers, which, in conjunction with the equivocal nature of its symptoms, prove a source of considerable embarrassment to the young practitioner. Some believe it to be inflammatory, and bleed largely. Doctor Withering observes, that in a great many cases, if not in all, congestion, or slight inflammation, are the precursors to the aqueous accumulation. Doctor Rush thinks that instead of its being considered red and idiopathic dropsy, it should be considered only as an effect of a primary inflammation or congestion of blood in the brain. It appears, he says, that the disease, in its first stages, is the effect of causes which produce a less degree of that inflammation which constitutes phrenities; and that its second stage is a less degree of that effusion which produces serious apoplexy in adults. The former partakes of the nature of the chronic inflammation of Doctor Brown. There are others, again, who view the subject in a very different light. Doctor Darwin supposes inactivity, or torpor of the absorbent vessels of the brain, to be the cause of hydrocephalus internus; but he confesses, in another part of his work, that the torpor of the absorbent vessels may often exist as a secondary effect. Doctor Whytt, who has published an ingenious treatise on the disease, observes, the immediate cause of every kind of dropsy is the same; viz: such a state of the parts, as makes the exhalent arteries throw out a greater quantity of fluids than the absorbents can take up. From what he afterwards mentions, he evidently considers this state as consisting in debility. As many cases are accompanied with an increase or inflammatory action of the vessels of the brain, and others again, are observed to prevail along with general anasarca, it seems rational to allow, that hydrocephalus is, in some instances, the consequence of congestion, or slight inflammation of the brain; and that, in others, it arises either from general debility, or topical laxity. In admitting these as incontrovertible facts,

Doctor Thomas is, at the same time, induced to suppose that the causes of it, occurring from mere debility, are by no means frequent.

The progress of the disorder has, by some, been divided into three stages. When it is accompanied by an increase or inflammatory action of the brain, as not uncommonly happens, its first stage is marked with many of the symptoms of pyrexia, such as languor, inactivity, loss of appetite, nausea, vomiting, parched tongue, hot dry skin, flushing of the face, headache, throbbing of the temporal arteries, and quickened pulse; which symptoms always suffer exacerbation in the evening, but towards morning become milder. When it is unaccompanied by any inflammatory action of the brain, many of these appearances are not to be observed. In these cases, it is marked by a dejection of the countenance, loss of appetite, pains over the eyes, soreness of the integuments of the cranium to the touch, propensity to the bed, aversion to being moved, nausea, and costiveness. The disease at length makes a remarkable transition, which denotes the commencement of its second stage. The child screams out, without being able to assign any cause; its sleep is much disturbed; there is considerable dilatation of the pupils of the eyes, without any contraction on their being exposed to light; lethargic torpor, with strabismus, or perhaps double vision, ensues, and the pulse becomes slow and unequal. In the third stage, the pulse returns again to the febrile state, becoming uncommonly quick and variable, and coma, with convulsions, ensues. When the accumulation of water is very great, and the child young, the sutures recede a considerable way from each other, and the head, towards the end, becomes considerably enlarged.

When recoveries have actually taken place in hydrocephalus, we ought probably to attribute more to the efforts of nature, than to the interference of art. It is always to be regarded as of difficult cure. An accumulation of water in the ventricles of the brain, is one of the most common appearances to be observed on dissection. In different cases,

this is accumulated in greater or less quantities. It sometimes amounts only to a few ounces, and occasionally to some pints. When the quantity of water is considerable, the fornix is raised at its interior extremity, in consequence of its accumulation, and an immediate opening of communication is thereby formed between the lateral ventricles. The water is of a purer color, and more limpid than what is found in the dropsy of the thorax or abdomen. It appears, however, to be generally of the same nature with water that is accumulated in these cavities. In some instances, the water in hydrocephalus contains a very small portion of coagulable matter, and in others, it is entirely free from it. When the water is accumulated to a very large quantity in the ventricles, the substance of the brain appears to be a sort of pulpy bag, containing a fluid. The skull, upon such occasions, is very much enlarged in its size, and altered in its shape; and it appears exceedingly large in proportion to the face. On removing the scalp, the bones are found to be very thin, and there are frequently broad spots of membrane in the bone. These appearances are, however, only to be observed when the disease has been of some years continuance. In some cases, where the quantity of water collected is not great, the substance of the brain has appeared to be indurated; and in others, softened. At times, the organ has been found to be gorged with blood; collections, also, of a viscid tenacious matter have been discovered in cysts, upon its external surface, and tumors have been found attached to its substance.

TREATMENT.

Whatever conflicting opinions have existed among the most learned physicians, in regard to the nature and treatment of this most afflicting disease, and however various may be the forms which it assumes, it is a consoling fact, that our remedies have been successful in arresting the disease in every stage, and restoring the patient to perfect health, and in some

instances, the relief has been so sudden, as to astonish those who were eye-witnesses to the relief given.

Our first object is to determine the circulating fluids to the feet, which is effected by soaking the feet and legs in very warm salt water; wipe dry, and then apply the Stimulating Liniment to the feet and legs, and placing hot bottles of water thereto, and then apply the same Liniment upwards over the body; at the same time apply the Nerve Liniment to the top of the head, forehead, neck, etc., very freely, with an exhibition of our Diaphoretic Drops, in half tea-spoonful doses, in warm water, once in ten minutes, until a free perspiration takes place. If an emetic be indicated, let the patient take ten or fifteen drops of our Pectoral Tincture, once in fifteen minutes, until a vomiting takes place. This course ought to be repeated, if the first application does not afford full relief. In the mean time, the patient may drink freely of valerian or snake-root tea.

This treatment has uniformly relieved the determination of the blood to the brain, diffused the water in the ventricles, and sometimes in a few hours restored the patient to a hopeful state of convalescence.

CHAP. XIV.

HYDROPHOBIA.

HYDROPHOBIA: a peculiar disease, arising from the bite of a rabid animal. The animals most liable to be affected with madness, are dogs; but cats, wolves, foxes, etc., are also subject to it.

The following description of the way in which rabies affect dogs, is from a communication in the Sporting Magazine, September, 1825:—The symptoms of rabies in the dog, are the following, and are given nearly in the order in which they usually appear: An earnest licking, or scratching, or rubbing of some particular part; sullenness, and a disposition to hide from observation; considerable costiveness, and occasional vomiting; an eager search for indigestible substances, as bits of thread, hair, straw, and dung; an occasional inclination to eat its own dung, and a general propensity to lap its own urine. The two last are perfectly characteristic. The dog becomes irritable; quarrels with his companions; eagerly hunts and worries the cat; mumbles the hand or foot of his master, or perhaps suddenly bites it, and then crouches and asks pardon. As the disease proceeds, the eyes become red; they have a peculiar bright and fierce expression; some degree of strabismus, or squinting, very early appears—not the protrusion of the *membrana nictitans*, or hair over the eyes, which, in distemper, often gives the appearance of squinting, but an actual distortion of the eyes; the lid of one eye is evidently more contracted than that of the other; twitchings occur round that eye; they gradually spread over that cheek, and finally over the whole face. In the latter stage of the disease, that eye frequently assumes a dull green color, and

at length becomes a mass of ulceration. After several days, the dog usually begins to lose a perfect control over the voluntary muscles. He catches at his food with an eager snap, as if uncertain whether he could seize it; and he often fails in the attempt. He either bolts his meat almost unchewed, or, in the attempt to chew it, suffers it to drop from his mouth. This want of power over the muscles of the jaw, tongue, and throat, increases, and the lower jaw becomes dependent; the tongue protrudes from the mouth, and is of a dark, and almost black color. The animal is able, however, by a sudden convulsive effort, to close his jaws, and to inflict a severe bite. The dog is in incessant action; he scrapes his bed together, disposes it under him in various forms, shifts his posture every instant, starts up, and eagerly gazes at some real or imaginary object; a peculiar kind of delirium comes on; he traces the fancied path of some imaginary object floating around him; he fixes his gaze intently on some spot in the wall or partition, and suddenly plunges and snaps at it; his eyes then close, and his head drops, but the next moment he starts again to renewed activity: he is in an instant recalled from this delirium by the voice of his master, and listens attentively to his commands; but as soon as his master ceases to address him, he relapses into his former mental wandering. His thirst is excessive, (there is no hydrophobia, or fear of water, in the dog,) and the power over the muscles concerned in deglutition being impaired, he plunges his face into the water up to the very eyes, and assiduously, but ineffectually, attempts to lap. In Johnson's Shooter's Companion, the author observes: "In those instances of hydrophobia which have fallen under my notice, the animal has always been capable of lapping; however, in the disease called *dumb madness*, I have noticed symptoms similar to the above." His desire to do mischief depends much on his previous disposition and habits. I have known it not to proceed beyond an occasional snap, and then only when the animal was purposely irritated; but with the fighting dog, the scene is often terrific. He springs to the end of his chain; he darts with ferocity at some object

which he conceives to be within his reach; he diligently tears to pieces every thing about him; the carpet or rug is shaken with savage violence; the door or partition is gnawed asunder; and so eager is he in this work of demolition, and so regardless of bodily pain, that he not unfrequently breaks one or all of his tushes. If he effects his escape, he wanders about, sometimes merely attacking those dogs which fall in his way; and at other times he diligently and perseveringly hunts out his prey: he overcomes every obstacle to effect his purpose; and unless he has been stopped in his march of death, he returns in about four and twenty hours, completely exhausted, to the habitation of his master. He frequently utters a short and peculiar howl, which if once heard can rarely be forgotten; or if he barks, it is with a short hoarse, inward sound, altogether dissimilar from his usual tone. In the latter stages of the disease, a viscid saliva flows from his mouth, with which the surface of the water that is placed before him is covered in a few minutes; and his breathing is attended with a harsh, grating sound, as if impeded by the accumulation of phlegm in the respiratory passages. The loss of power over the voluntary muscles extends, after the third day, throughout his whole frame, and is particularly evident in the loins; he staggers in his gait; there is an uncertainty in all his motions; and he frequently falls, not only when he attempts to walk, but when he stands balancing himself as well as he can. On the fourth or fifth day of the disease, he dies, sometimes in convulsions, but more frequently without a struggle. After death, there will invariably be found more or less inflammation of the mucus coat of the stomach; sometimes confined to the *rugæ*: at other times in patches, generally with spots of extravasated blood, and occasionally intense, and occupying the whole of that viscus. The stomach will likewise contain some portion of indigestible matter, (hair, straw, dung,) and, occasionally, it will be completely filled and distended by an incongruous mass. The lungs will usually present appearances of inflammation, more intense in one, and generally the left lung, than

in the other. Some particular points and patches will be of a deep color, while the neighboring portions are unaffected. The sublingual and parotid glands will be invariably enlarged, and there will also be a certain portion of inflammation, sometimes intense, and at other times assuming only a faint blush, on the edge of the epiglottis, or on the rima glottidis, or in the angle of the larynx, at the back of it.

The hydrophobia seems to be spontaneous, and capable of being communicated only in certain animals—the dog, the wolf, the fox and the cat. All animals which have become rabid by a bite, do not appear to be able to transmit it to others; as the hog, cow, sheep. In regard to man, it is not certain whether the disease is communicable from the human subject. The hydrophobia is not commonly manifested in the time of greatest cold or greatest heat, but usually in March and April in wolves, and in May and September in dogs. It is rare in very warm or very cold climates. No particular cause of the rabies is known; it is a mistake to attribute it to a total privation of food, as a great number of experiments prove that this is not the effect of such treatment. All observations seem to prove the existence of a rabid virus which is more violent when it proceeds from wolves than from dogs; as out of a given number of persons bitten by a rabid wolf, a greater number will die than out of the same number bitten by a dog. The communication of the virulent hydrophobia by inoculation cannot be denied, and is the best proof of the existence of the virus. The virus appears to be contained solely in the saliva, and does not produce any effect on the healthy skin. But if the skin is deprived of the epidermis, or if the virus is applied to a wound, the inoculation will take effect. The development of the rabid symptoms is rarely immediate; it seldom takes place before the 40th or after the 60th day. It begins with a slight pain in the scar of the bite, sometimes attended with a chill; the pain extends and reaches the base of the breast, if the bite was on the lower limbs, or the throat, if on the upper extremities.—The patient becomes silent, frightful dreams disturb his sleep;

the eyes become brilliant; pains in the neck and throat ensue. These symptoms precede the rabid symptoms two or three days. They are followed by a general shuddering at the approach of any liquid or smooth body, attended with a sensation of oppression, deep sighs and convulsive starts, in which the muscular strength is much increased. After the rabid fit, the patient is able to drink. The disposition to bite does not appear to belong to any animals except those whose teeth are weapons of offense; thus, rabid sheep butt furiously. A foamy, viscid slaver is discharged from the mouth; the deglutition of solid matters is difficult, the respiration hard; the skin warm, burning, and afterwards covered with sweat; the pulse strong; the fit is often followed by a syncope; the fits return at first every few hours, then at shorter intervals, and death takes place generally on the second or third day. A great number of applications have been recommended, but without success.

TREATMENT.

The treatment of the disease is of two sorts; the one consists in preventing its development; the other in checking its progress. The former consists in cauterizing the wound with iron heated to a white heat, the pain of the cautery being less as the temperature is greater. The cautery is preferable to the use of lotions, liniments, etc.; but it should be employed within twelve hours after the bite. It has been said, that in patients who were about to become rabid, several little pustules filled with a serous matter appeared under the tongue, the opening of which would prevent the disease; but this is not well established. Various remedies have been prescribed for the cure of a declared hydrophobia. Bleeding, even to syncope, appears to have produced the greatest effect, but without complete success. Preparations of opium administered internally or by injection, mercurial frictions, belladonna, emetics, sudorifics, purgatives, etc., have been tried ineffectually. Yet the physician should not despair, as a remedy which has failed in one case may succeed in another. Above

all, the patient should be treated gently, and his sufferings alleviated by consulting his comfort as much as possible, and the attendants should not forget that there is no instance of the rabies having been communicated from one man to another.

SICK STOMACH, OR MILK SICKNESS.

THIS disease is never known, only in the barrens and prairies, and in the flat lands, in the United States. In these regions it is sometimes very distressing, frequently proving fatal, unless speedy relief be obtained. Among those who are best acquainted with the disease, there are as many conflicting opinions as to its cause, as there are of the spasmodic cholera. Some attribute it to the malaria, or miasmata of the low lands; others, to an impure atmosphere, while others attribute it to the use of milk from cows which have fed on a variety of poisonous vegetable substances, or from feeding on the meat of such animals. One thing is certain, that none in the infected region become obnoxious to the disease, who entirely abstain from a milk and meat and butter and cheese diet.

The disease commences with trembling sensation upon the slightest exertion—loss of appetite—slight sickness of the stomach, and sometimes a burning sensation is felt in that region. The pulse at this time is natural; skin dry, or a clammy sweat occurs, if the nausea is great; thirst, great languor, and indigestion. Sometimes these symptoms continue a few hours; sometimes for several days. The symptoms above described are followed by severe vomiting, great prostration of strength, and total loss of appetite. The skin very little above the natural temperature; the extremities are generally cold; pulse at first slow and full; as the disease progresses, they become small and feeble; great thirst; dull and heavy appearance of the eyes, and obstinate constipation, are the most striking characteristics of the disease. Vomiting, in from ten to thirty minutes; the matter ejected from the stomach is at first mixed with bile; afterwards, a fluid nearly of the thickness

of the white of an egg, and in many cases transparent. Vomiting is preceded by a burning sickness at the stomach, which is temporarily relieved by vomiting; but in a few minutes the same sensations recur, and respiration becomes laborious; the patient continually shifting his position. The above are among the prominent characteristics of the disease which has baffled the skill of many physicians, but has been successfully treated with our remedies.

TREATMENT.

This disease may be confounded with the cholera morbus, or the bilious remittent fever, though its peculiar features vary much from either. The great objects to be obtained in treating this disease, are—first, to allay vomiting, procure a free evacuation of the bowels, and restore an equilibrium of the system. At the first stage of the disease, administer an emetic of the pectoral tincture, which will expel the irritating matter from the stomach. But if the patient be much exhausted, omit the emetic and give preparations of alkali and aromatics; at the same time, let an application of the Fever Liniment be made over the whole surface of the body, and place hot bricks to the feet and sides, which will cause a free perspiration; and in order to have a sudden and safe operation on the bowels, take one drop of Croton oil once an hour. Take six drops of Croton oil, mix with one-eighth of an ounce of the same Liniment, and apply it to the abdomen; apply a warm flat-iron over the bowels, which will facilitate the operation. This may be repeated in three hours, if relief be not obtained from the first application, and so on, until full discharges occur. This mode is more safe and sure than to depend on internal remedies to move the bowels, as physic seldom if ever is made to operate in these cases in a less time than twenty-four hours.

After the patient has obtained relief from disease, wash off with soap suds, and then apply the Liniment once or twice over the whole body, taking at the same time tonic bitters.

INFLUENZA.

THE fact that this disease has of late years assumed more of the type of an epidemic than formerly, must be manifest to every attentive observer; and within the last year the mortality in Europe and some parts of the United States has been nearly equal to that of the spasmodic cholera. To understand this disease, and to find a sure antidote, is of vast importance to the world. While the cholera raged most destructively among the poor, the influenza has raged among all classes of community. The rich have formed no exemption. The distinctive features of the disorder appear to consist in the extent to which the lungs have been implicated, the mucus membranes lining the air passages being in many cases inflamed, and after a few days overloaded with viscid secretions, interfering with the arterialization of the blood. The oppression of breathing very urgent, attended with pain in the side. The pulse is generally soft, and when depletion is resorted to, delirium is apt to supervene. The cause of the seizure is generally attributed to the changes which so suddenly occur in the atmosphere, from great dryness to great humidity, both states being accompanied with severe depression of temperature. Notwithstanding much has been written on this interesting subject, such has been the conflicting opinions in regard to the real cause of the malady, and so changeful is its appearance in different countries and in different patients, that we shall labor more to point out a sure cure for the complaint, than to reconcile conflicting opinions of its proximate cause.

TREATMENT.

In no case would we recommend blood-letting. On the first attack, let the patient's feet be soaked in warm water; apply the Fever Liniment over the whole body, with plasters of the same to the bottoms of the feet, and a plaster on the

breast; hot bricks to the feet and sides; a full application of the Liniment to the neck and throat; wrap warm flannels about the neck; take Diaphoretic Drops sufficient to cause a free perspiration; take the Pectoral Tincture, in doses of from four to six drops, once an hour, or oftener, if the stomach be much overloaded by phlegm. These Drops may be taken in doses to cause vomiting, if, from the state of the patient, a vomit appears to be indicated.

Repeat this sweating process once in six hours, until entire relief is given. The patient may drink freely of a mucilage of flaxseed or slippery-elm bark, taking the precaution to keep the bowels gently open. This treatment will generally relieve the patient within one or two days. It is sometimes necessary to depend almost entirely on the external application, and sometimes it may be advantageous to immerse the patient in a warm vapor bath.

FITS.

THERE are four kinds of fits, namely: apoplectic, epileptic, hysteric, and fainting fits.

APOPLECTIC.

The symptoms of this disease, are sudden falling to the ground, with deprivation of sense and motion, attended with deep sleep, and noisy breathing; the circulation remaining unimpaired.

The causes are an excessive fullness of vessels, or a redundancy of blood, fullness of habit or body, hard drinking, too large doses of opium, blows, tight neckcloth, or whatever interrupts the return of the blood to the head.

TREATMENT.

Let the feet be immersed in very warm water; at the same time apply the Stimulating Liniment freely to the top of the

head, on the neck and breast, and then to the whole body; and if it be caused by opium or strong drink, give ten or twenty drops of the Pectoral Tincture, or enough to cause vomiting; if from any other cause, give the Diaphoretic Drops, and place warm bricks to the feet, to produce speedy and profuse perspiration. This course, with friction of the hand, or a flesh brush, will generally give very ready relief. In some instances of this disease, the saline bath may be resorted to with advantage.

EPILEPTIC.

The patient falls suddenly, with a deprivation of sense, while the muscles of the face, and every part of the body, are violently convulsed.

The causes are excessive drinking, sudden stoppage of the menses, severe fright, injuries to the head, teething in children, and irritation of the stomach and intestines.

TREATMENT.

The treatment may be similar to that of apoplectic fits, with but little variation. The Fever Liniment, in this disease, is preferable to the Stimulating, and the Pectoral Tincture ought to be given in larger doses, and force down as much warm water as possible, until vomiting takes place freely. We have known the lock jaw relieved by the same means, only apply a double portion of the Liniment about the neck and jaws.

HYSTERIC.

This complaint appears under such various shapes, imitates so many other diseases, and is attended with such a variety of symptoms which denote the functions considered to be disordered, that it is difficult to give a definition of it, and it is only by taking an assemblage of all its appearances, that we can convey any idea to others. This disease attacks in pa-

roxysms or fits. These are sometimes preceded by dejection of spirits, anxiety of mind, effusion of tears, difficulty of breathing, sickness at the stomach, and palpitation of the heart; but frequently it happens, that a pain is felt in the left side, with a sense of distension advancing upwards, until it arrives at the stomach, and then to the throat, with suffocating, fainting, stupor, insensibility; at the same time, limbs agitated, fits of laughter, crying, screaming, temporary delirium, and frothy saliva is discharged from the mouth. When the patient recovers the exercise of sense and motion, there are no traces in the memory of what has transpired. There is severe pain in the head, and soreness over the whole body. In severe cases, there are no convulsions; the patient remains, to appearance, in a sound sleep, without any sense of motion. Hickup is sometimes the only apparent symptom. Unmarried women are the most subject to the disease, and often attacked about the commencement of menstruation.

These fits are readily brought on by surprise, sudden joy, grief, fear, and by sympathy; by a sedentary life, and by suppression or obstruction of menstrual flux, or by excessive evacuations. In fact, all these various symptoms are often caused by obstructions, weakness, and nervous affections.

TREATMENT.

In all cases of hysteric fits, our Nerve Liniment is invaluable, both as an antidote and a remedy. It may be at first applied to the most diseased organs, and afterwards over the whole body. Take of the Pectoral Tincture, as circumstances may require. When the stomach and throat are affected, fifteen or twenty of these drops will give relief. We have never witnessed a case where these remedies have been ineffectual. The disease is a distressing one, and merits more of the commiseration of physicians and friends, than is generally awarded. It is very important that the patient be treated with great delicacy and much kindness.

It is not uncommon for flatulency or choleric to be an attendant on hysterics. When this is the case, our Essence of Life, taken in tea-spoonful doses, will afford immediate relief.

Note.—In cases of spasmodic fits, which are produced by intemperance, or from almost any other cause, the first object to be effected, is to evacuate the stomach by a vomit. This can be effected by a strong solution of salt and water; after which, administer two drops of our Nerve Sanative, in warm water, once in fifteen minutes, and at the same time, make a free application of the same medicine to the throat and stomach, over which keep hot clothes, wet with camphor. As soon as the spasms subside, give a tea-spoonful of Essence of Life, in warm water, once or twice, which will relieve the great pressure at the breast. After which, apply a plaster of the Stimulating Liniment to the breast.

PART II.

TESTIMONIAL.

OUR CONCENTRATED MEDICAL COMPOUNDS.

THE unparalleled success which has attended our medical preparations, from their first introduction in their crude state to the present time, imposes upon us the duty of making use of exertions to render them more extensively a blessing to the human family.

We shall give the testimonials of a large number of witnesses to the efficacy of our remedies rather than our own recommendations. The facts which have been elicited, through the medium of a vast number of experiments, warrant us in embodying them with other interesting matter, in the form of a volume.

The cases which we publish embrace almost every form of disease, and it will be seen, by reference thereto, that the cures have been effected principally by our external remedies.

In examining the following testimonials, the reader will find that the practice is simple and easy to be understood; he will also find that large and nauseous doses of medicine can be dispensed with.

The manuscripts from which the following extracts are taken are in our possession, with the entire signature of each individual thereto affixed.

TESTIMONIALS.

SCALD HEAD.—The following is signed by the father of the patient, and relates to one of the most extraordinary cases of cure, of that disease, to be found in the annals of medicine.

A daughter of mine, N. M., aged 17 years, was, two and a half years ago, afflicted with scald head. At first, little sores appeared all over her head, and her hair came off. In the month of June last, an application of Jewett's Cerate was made and continued with favorable effect; and, in two months from the commencement of these applications, a complete cure was effected. During the whole time of using the medicine, her general health remained good and unimpaired. It should be noted that the whole surface of the head was affected to the thickness of a man's hand, and spread over with numerous boils, attended with redness and great heat.

J. M.

PILES.—I had been afflicted with the piles for twenty years: during the first ten years, periodically; but, for the next ten years, the attacks were irregular, until, finally, I was scarcely at any time free from pain, and, a great portion of the time, suffered extremely. I applied, three years since, Pile Salve prepared by Col. Jewett, as directed, and, in twenty-four hours, was wholly relieved from all pain and inconvenience of every kind. Three years have now passed away without a single return of the disease.

J. B.

SCIATIC AFFECTION.—Four years ago, I was attacked suddenly with sciatic affection, and a weakness and pain in the back, which continued, at intervals, two years, when the weakness and pain in the back became continual, and so remained until I applied a plaster of *Jewett's Stimulating Liniment*. In about one week, I experienced relief, and, by continuing the plaster four weeks, it has effected a cure. The last two years I was so weak in my back, and otherwise, that I could not lift ten pound weight. I had,

during this period, been attended by four eminent physicians, without the least relief.

N. S.

SEVERE PAINS, ATTENDED WITH FEVERS, DELIRIUM, COUGH, &c.—About the middle of 11th month, 1834, I was taken with a severe pain in my head and right breast, attended with much soreness, difficulty of breathing, cough, some expectoration, numbness in my lower extremities, and high fever. My head was so much affected that I became entirely deranged. In this situation, my family were much alarmed, and, thinking that I was dying, sent for a physician, who ordered me, as I was afterwards informed, some mild diaphoretic tea, and, despairing of my life, directed, by way of experiment, an application of Jewett's Stimulating Liniment. This article was faithfully applied to my head, breast, stomach, and lower extremities, and, in a short time, I was very much relieved and restored to reason; perspiration took place, my pains ceased, and I was very soon restored to perfect health. I have no doubt this Liniment was the means of prolonging my life.

M. T.

SICK HEAD-ACHE.—At an early period of promulgating our remedies, a severe case of sick head-ache of a female came under our treatment. This was the *first* case that we had seen which fully developed the powers of our medicines for the removal of that complaint. Though the patient had suffered long, the relief she gained was almost instantaneous. She soon became convalescent, and, shortly after, perfectly cured of the complaint. We notice this case as being the more extraordinary as, at the same time, the patient was laboring under uterine affections of long standing. The mode of application was such as we recommend in our *directions*, and which has continued to be so successful to the present time.

SICK HEAD-ACHE.—I have been afflicted with sick head-ache, occasionally, for eight years, and, for the last two years, I was at no time clear of it, until about the 25th of August last, when I ap-

plied Jewett's Stimulating Liniment to the top of my head, back of the neck, behind the ears, on the forehead and breast, and, in just four minutes from the time of application, my head ceased to ache. It did not return on me for six weeks, and then only a slight attack, and I have never had it since. Previous to the application, I had been attended by most of the physicians of Columbus without the least relief.


URIAH STOTTS.

CITY OF COLUMBUS,

Mayor's Office, Jan. 6, 1835.

Then the above named Uriah Stotts personally appeared, and made solemn oath that the statement above made by him is true, before me.

JOHN BROOKS, *Mayor.*

 It is now three years since Mr. Stott has been troubled with the head-ache, more than others who do not complain of it, as a disease; but two years after he was cured, as he states, he was afflicted with a sore which had gathered in his head, and was discharged through the ear. A few applications of the Liniment to the head, and inside the ears, performed a thorough cure of the disease, and it has not returned upon him since.

DYSPEPSIA, WITH DESPONDENCY OF MIND.—More than one year and a half ago, I was attacked with dyspepsia—stomach and bowels much disordered—digestive powers impaired—dry skin—and despondency of mind. I had no hope of obtaining relief, until six months ago, I applied Jewett's Liniment to the surface of my body. In two or three days my skin became moist, a relaxation took place in my system, and I directly became relieved. Soon after the application, I threw off, from my stomach, large quantities of the most offensive matter, which afforded me much relief. With this application alone, I have been cured of the disease, and have remained in health ever since.

J. W.

RHEUMATISM.—About the 20th of November, 1834, I was taken

with the rheumatism in one of my knees, which, in the course of one week, became much swollen and very painful, so much so that I could not walk without a couple of canes. I came to Columbus on the 29th of November, and, on the third day after, applied Jewett's Liniment to my knee and leg down to my foot; in eight or ten days, I became entirely free from all pain, and still continue free from all appearance of the complaint.

W. H. M.

BILIOUS FEVER.—I was attacked with severe pain in the head, back, bones, and legs, with hot fever and quick, hard pulse. I applied Jewett's Liniment on the whole surface of the body, and, immediately, all pain ceased. No other medicine was made use of, and, in about one day, I was restored to health.

J. C. S.

CASE OF WHITE SWELLING.—The following case of white swelling exhibits, perhaps, one of the most extraordinary cures ever performed by any medicine or mode of practice whatever. The history of it was given by the parents, and corroborated by the patient himself, an intelligent lad aged about 14 years. The indescribable pain and anguish which the sufferer had endured for months, without a single moment of alleviation, and the extreme anxiety and unwearied attention of the parents, afford a theme which the imagination can scarcely reach, much less the pen describe. But suffice it now to say the lad is restored, the parents are relieved from their deepest cares and painful anxieties, of which the reader can form a better estimate after reading what follows:

Timothy Cochrane, jr., born in Ireland, September, 1820, was attacked in the year 1831 with a fever, by which he was reduced very low, and continued in a painful debilitated condition until the spring of 1832, when a white swelling made its appearance on his right hip, or upper part of his right thigh. The pain which he suffered from this swelling was of the most intolerable and excruciating character. It is impossible for any but those who saw

him to form any conception of his suffering; and he, himself, looks back with horror upon the dreadful scene through which he has passed. During the course of this painful malady, his attendants were obliged to resort to every means which humanity could suggest in order to afford the slightest mitigation of his suffering; and so extremely sensitive did he become, that he could not bear the weight of the lightest blanket; but was obliged to have some person constantly to hold the bedding loosely over him. In short, death would have been welcomed by him a thousand times as "a friend, the kindest and the best."

In the summer succeeding the attack of the swelling, his parents left Ireland for the United States. The agonizing pains of the awful malady accompanied him across the Atlantic, and deserted him not when he landed in the city of Montreal. The best physicians in Ireland had attended him in vain; and, on his arrival in Canada, three surgeons of the British army at Montreal and Little York were speedily consulted with no better success. From Montreal the family moved to Buffalo, where the advice of two eminent physicians from the city of New York was procured, who, as well as all others consulted, pronounced it a most desperate, if not an utterly incurable case.

In the fall of 1832, the family settled in this city, when he received the attention of all the principal physicians in the place, and was abandoned by them all as incurable. Some time during the winter of 1832-'3, it was deemed proper to open the swelling, which was accordingly done, the pain still continuing as severe as ever.


In the spring of 1833, however, the pain in the hip abated; but he still continued extremely ill, very feeble, and without an appetite for food. In July, of the same year, he took the ordinary chill and fever of this climate, and, soon after, was attacked with dropsical swellings of the feet and legs, gradually extending to the abdomen and then to the head. The swelling, eventually, became very large, the bowels were enormously distended, the head nearly double the natural size, and the neck measuring about as large, in circumference as the head. His bowels, as is usual in such cases, were extremely irregular, either obstinately costive, or very much relaxed: his right leghad become very crooked and stiff: seven ulcers were located about the hip and groin, and all

the attendant symptoms indicated certain and speedy dissolution. It was in this most deplorable condition that his situation became accidentally known to Col. Jewett, when he immediately recommended the application of his Stimulating Liniment. Internal remedies were used at the same time, and, among others, *one* emetic. The other medicines were such tonics and purifiers of the blood as accompany Col. Jewett's remedies. The Liniment was applied to nearly the whole surface of the body, particularly the bowels, hip, and diseased leg, at the rate of four ounces per week. This course soon reduced the dropsical swellings, regulated the bowels, disposed the ulcers to heal, restored the appetite and general health, and made the patient comparatively comfortable and happy. Jewett's remedies were first applied about the 1st of July last, and now (six months since) all the symptoms of disease are removed, the ulcers all healed up, and the hip appears sound and well. The leg is becoming more and more straight and useful to him, with the prospect that he will eventually be able to do entirely without his staff and crutch, and enjoy good sound health. The following certificate is from the parents of the patient:

We certify that the above and foregoing statement, relative to our son, is strictly true, though falling far short of the dreadful reality of the case.

T. C.

B. C.

 It is now more than two years since Timothy Cochrane, jr., was cured of the white swelling as above stated, and he now resides in this city—has enjoyed perfect health, walks without a crutch, and, though one leg is much shorter than the other, he experiences but little inconvenience from it. He has been examined by a large number of travelers who have passed through this city, and witnessed the unparalleled success of our medicines in this interesting case.

We deem it worthy, also, of remark, that this was the first case in which a jacket, made of buckskin, (glazed cloth is better,) well covered with the Liniment, was worn constantly day and night. The benefits derived from it are evident; in fact, *we have never known a single failure of complete success where that mode of application has been resorted to.*

DYSPEPSIA, PAIN, AND COUGH.—Dear Sir: For your encouragement, and for the information of the afflicted, I would inform you of the benefits I have received by the use of your Liniment.

Having been afflicted with dyspepsia, loss of appetite, a severe cough, and pain in the breast, for a number of months; and, unable to obtain any relief, I was induced to try your Liniment. I have used about one bottle, and the effect has been to restore my appetite, my cough has ceased, the pain in my breast removed, and I find myself restored to perfect health.

J. C.

CHOLERA.—The most remarkable effect produced by the Liniment has occurred near Etna, in Licking county, where the cholera was raging, and had been unusually fatal in that village and its vicinity, when a lad of fourteen years of age was violently attacked with the premonitory symptoms of that scourge of nations. I applied your Stimulating Liniment over the whole body with much friction. The effect was truly astonishing; in a short time, every dangerous symptom was removed, and the next day the boy was apparently well. This relief was particularly fortunate, as no medical assistance could be obtained.

J. C.

BURNS AND SCALDS.—I have used your vegetable Cerate in my family in cases wherein two of my children suffered severely; the one burned with fire on the hand, and the other was scalded with boiling water upon the hand. Immediate application of your Cerate was made in both cases, which prevented blistering, and soon effected complete cures. My wife has applied the Cerate to her nipples, when sore, which effected a cure in the course of one night.

S. M.

BRUISE.—I had a finger smashed between two sticks of timber that were twelve inches square; when the timber was removed, my finger was completely flattened. It was immediately pressed into its proper shape, and bound up with an application of Jewett's Vegetable Cerate. In less than fifteen minutes after it was bound

up, all pain ceased; and, in three days, my hand was sound and well, with the exception of the end of my finger and under the nail, which was tender.

S. S.

REMITTING BILIOUS FEVER, DELIRIUM, ETC.—A lady, under my care, laboring under remitting bilious fever for more than a week, accompanied with a profuse diarrhea, and delirious, was treated by an application of Jewett's Liniment. In twelve hours, reason was restored; and the next day she was convalescent, and able to attend to the business of the family.

T. H.

Extract of a letter from Dr. S. R., of Hardiman county, Tennessee, July 5, 1835.

CANKER SORES, RISINGS ON THE BREASTS OF FEMALES, ETC.—“Col. Jewett: I have tried the efficacy of your Stimulating Liniment, and am truly gratified with the success I have had in its application for pains of all kinds, canker sores, risings on the breasts of females, cramp choleric, and external bruises. In fact, I am so convinced of its superiority over any other medicine, that I feel the want of it very much in my practice.”

Extract of a letter from Dr. A. McGowan.

PUTRID AND TYPHUS FEVER.—“Your Liniments I have now tested in two cases of putrid and typhus fever of very alarming type. One of the patients is now going about; the other, I feel satisfied, will be equally well in a short time. These diseases have proved fatal, in many cases, under the usual practice of depletion and minerals in this vicinity. I have likewise tried the Liniment in various cases of sick head-ache with decided effect.”

Extract from a letter of Dr. J. W., of Harrison township, Licking county, Ohio.

DROPSY, DYSPEPSIA, ETC.—“I have been troubled, for ten years,

with a dropsical affection; warm weather increased it, with a suppression of urine. I made a full and thorough application of your Stimulating Liniment to my bowels, and, strange to tell, I was, in a short time, relieved. I consider myself now cured of the complaint. In my practice, I found the most decidedly favorable effect in cases of dyspepsia, and pains generally, by the use of your Liniment."

DYSPEPSIA.—Col. Jewett: Sir, the bottle of Liniment which you presented me has been productive of much good, and relieved an amount of suffering far beyond my most sanguine expectations, from so small a quantity. I will relate a few of the surprising effects from the use of very small portions of it:

W. S. had been afflicted with a severe pain in the stomach for several weeks, and which had rendered him unable to labor. He applied a small quantity of the Liniment to his stomach, and, in a short time, the pain ceased. I saw him some time after, and learned that his health was better than it had been for a long time. Two severe cases of dyspepsia have been relieved and cured by it in a short time.


J. S.

HEAD-ACHE AND FOUL STOMACH.—About two weeks ago, I was afflicted with the sick head-ache and foul stomach. I applied to my head and stomach Jewett's Head-ache Liniment; and, in about four minutes, my head ceased to ache, and, without any other remedy, my stomach is restored to a healthy state, with a good appetite for any kind of food.

E. H.

DARTING PAINS IN THE EAR AND HEAD.—I was attacked, six weeks since, with a peculiar and very severe darting pain from the ear through the forehead, caused by exposure to the cold, together with violent head-ache, which was removed, in the course of ten minutes, by the application of Jewett's Liniment.

J. B.

 We shall omit the further publication of testimonials of

the cure of sick head-ache, except in cases where it forms a part of the evils suffered by patients laboring under other and more serious complaints; for, although sick head-ache is painful, and, in many cases, excruciating, we now consider it under the complete control of medicine. We have never known a failure when our Head-ache Liniment, together with its accompanying remedies, has been faithfully and perseveringly applied.

AFFECTION OF THE LIVER AND SPLEEN.—Last winter, I was attacked with a pain in my left side, which moved round into my back, and troubled me very much during the spring and summer. The pain, at length, got into both sides, and before and during a storm, or damp weather, it was severe beyond description. A slight swelling of the side occurred where the pain was principally seated, so that, by pressing the finger upon the place, there appeared a crackling similar to pressing a broken egg-shell (I do not know how to describe it better) under the fingers. I made a thorough application of your Stimulating Liniment to my side and back, which afforded me immediate relief; and, in a short time, by continuing the use of the Liniment, I was completely cured, and remained so ever since.

C. G. H.

NERVOUS AFFECTIONS, PAINS IN THE BACK, ETC.—In 1824, I was attacked with yellow fever, on the Island of Cuba, which arrived at a crisis in five days; but I did not recover my health. Since that period, I have suffered, continually, much pain in my sides, back, and shoulder-blades. The pains, at times, were violent, accompanied with general nervous irritation. I continued in that condition until January, 1835, when I applied Jewett's Stimulating Liniment, which gave me some relief the first day. I continued the application for ten days, when all pain ceased, and my general health was restored.

P. A. J.

INFLAMMATORY RHEUMATISM.—Three and a half years ago, I was severely attacked with the inflammatory rheumatism, with

which I was confined nearly four months ; and, after my recovery, I was occasionally troubled with a pain in my side, and the rheumatism has returned upon me every winter since my first attack. About three months ago, I commenced applying Jewett's Liniment, which relieved me from pain. I have used four bottles of the Liniment, and, at this time, I am entirely relieved of the complaint. For some time, I have had a glandular swelling on one of my arms, on which I applied the Liniment five times, which has nearly removed the swelling.

T. L.

CHILLS AND FEVER.—Some days ago, one of my children was severely attacked with chills and fever: I applied Jewett's Liniment over the whole surface of the body, which relieved the pain and averted the fever, and no return of chill or fever has since occurred. The next day, the child was as playful as usual.

G. B. S.

COUGH.—I have been afflicted, for twenty years, with a very severe cough, and, for a long time, with many other bodily infirmities of the most distressing kind. I have repeatedly sought aid from various sources, but received only partial relief, until I made use of your remedies, which was on the 26th of January, 1835. The first bottle relieved me from pains which I had suffered for six years, and they have not since returned. The second day I used it, caused me to throw off of my stomach much offensive, corrupted matter, and a great weakness in my back and breast ensued. I applied a plaster of the Liniment to those parts, which soon removed the weakness, and I have not suffered any from it since. I have suffered much from dyspepsia for three years past; the most of the food I ate was either thrown up, or remained on my stomach to distress me; but now I have a good appetite for any kind of food, and eat all kinds freely without any injurious consequences. I have, generally, been obliged to set up for hours every night, in bed, to cough; but now I sleep comfortably all night. I am now over sixty years of age—enjoy myself as well as I could wish—and find it my duty to continue the means that

a gracious Providence has placed in my hands for relief from pain and suffering.

M. K.

DYSPEPSIA AND HEAD-ACHE.—I have been afflicted, for more than three years, with a severe pain in my head, said to be the nervous head-ache, which confined me much of the time in bed. I applied Jewett's Liniment to my head, which removed the pain in fifteen or twenty minutes, and I have not felt it since. I also suffered much from dyspepsia, and other distressing complaints; but the use of the Liniments has also removed these difficulties. It is now about six months since I first made use of the Liniment, and I enjoy better health than I have for many years. I have a good appetite, my food agrees with me, and I am gaining in health and strength daily.

L. A. H.

RHEUMATISM.—It is now about four years since I had an attack of rheumatic pains; my limbs and nerves were much affected; I was sometimes much worse than at others; but, during the whole period, I was never free from pain. During the second year of my affliction, I was swelled in my ankles, knees, hips, and on my head, and my neck was stiff, so that, often, I could not turn to look at any object without turning my body also. The sinews of my limbs were swollen, and felt corded and tight like drum cords; my nerves were affected, and I experienced death-like feelings, and I endured sleepless nights. Two weeks ago, I commenced the application of Jewett's remedies, for fever and ague, according to directions, and I have come to my natural feeling; I breathe freely; the pain in my side is gone; I am entirely relieved; have the natural and easy use of my limbs; and, during the whole four years, I did not, at any moment, experience any thing like the ease I now enjoy. In addition to rubbing the whole surface of the body with the Liniment, a plaster of the same was applied to my side, which soon produced a running sore; and, as the discharges from it took place, my side was entirely relieved from pain.

J. G.

SPRAIN.—On the 8th of January, 1835, I strained my knee-joint—raising the knee-pan from its place—and it was believed that the knee-joint was cracked. Extreme pain and great swelling ensued. I applied Jewett's Stimulating Liniment, and heated it in with a warm iron, swathing it with flannel, and, in twelve hours, the pain entirely ceased. In ten days, a perfect cure was effected without the application of any other medicine.

E. B.

FEVER AND DIARRHEA.—I was called on, last winter, to attend a child which had a high fever and diarrhea. I applied Jewett's Liniment over the whole body. In two hours, the child was wholly relieved from the fever, and had not another irregular motion of the bowels; no other medicine was made use of.

J. R.

FEVER AND AGUE, AND CHOLERA MORBUS.—I was attacked severely with chills and fever, to which I had, for a long time, been subject. I made use of the Liniment for fever, and, in three days, was perfectly cured of the complaint; and it has not returned upon me since, after a lapse of one year. I also used your Liniment for cholera morbus, which, in a very short time, cured me of that complaint; the attack was a severe one, and no other medicine was made use of.

E. B.

Extract of a letter from a Physician of high standing.

HIGH FEVER AND EXTREME DEBILITY PROMPTLY CURED.—"I have found, so far as I have tried your medicine, that it proves highly satisfactory. In one case, I was called to a boy who was brought home with a very high fever: preparations had been made to give it a course of the Thompsonian system; but I immediately applied your Fever Liniment over the whole body, and, before the water got warm, the boy was in a full perspiration, and the fever left him immediately. In another case, I was called to a lady, in the country, who had been confined about eight weeks. I found her almost without pulse—extremities cold—skin dry—

extreme pain in the head and back—and much febrile affection indicated. I applied your Fever Liniment with much friction, which gave her *immediate* relief. Several other cases have been relieved in like manner.”

SALT RHEUM.—My wife has been afflicted with salt rheum for thirty years : all means resorted to, during that period, proved ineffectual until, about nine months ago, she applied your Vegetable Cerate, which relieved her in two days, and she soon became perfectly cured of the complaint. She has not been troubled with it since, with the exception of a single instance : about six months after the cure, she had a slight breaking out on the hand, which was removed with one application of the Cerate.

E. B. C.

Extract of a letter from Dr. D. J.


PILES AND PALPITATION OF THE HEART.—“Thirteen years ago, M. L., a lady of Montgomery county, Ohio, was attacked with the piles, which have continued to afflict her ever since. She was also troubled with pain in her back, bowels, sides, and shoulders ; and during the whole time, as she averred, had been afflicted with palpitation of the heart.

“Four months since, I applied your Stimulating Liniment, on plasters, to her back and bowels, rubbing the same on her breast and shoulders. I also gave her the Pile Salve, two applications of which, with five applications of the Stimulating Liniment, together with the plasters worn as above stated, have completely cured her of all disease, and she remains well at the present time. The same lady informs me that her daughter was violently attacked with pleurisy, and that she rubbed her side, and over the body, with the Stimulating Liniment, and threw her into a perspiration, and relief was obtained immediately.”

FEVER AND AGUE.—Two months ago, I was taken with the fever and ague. I had chills and fever every other day. Just

before I expected the chill, on the seventh day, I applied Jewett's Fever Liniment to the bottoms of my feet, and put a hot brick to them, which caused a profuse perspiration, and the chill and fever did not return on me. I have had no more ague since. This was the only medicine I used, and I used it but once.

J. B.

 We would here remark, that though the foregoing case is truly remarkable, (and we have known many such produced by our remedies,) we have not been in the habit of depending for a cure, on so slight an application, but at once apply the Liniment over the whole surface of the body, which we have never known to fail of accomplishing the desired object—a *perfect* cure.

MEASLES.—Two months ago, my wife was severely attacked with measles, with severe pain in the bones, until I made an application of Jewett's Stimulating Liniment. The first application afforded relief. On the second application the measles broke out over the whole body, and in three days after, she was entirely relieved, during which time she made frequent use of the Liniment on her body, and wore plasters on the bottoms of her feet. During this whole application, she had no cough, nor sore eyes; and since her recovery, she has been in better health than she has experienced for a year past.

J. C. S.

Extract of a letter from an aged and experienced physician.

INTERMITTENT FEVER.—“In the last eight weeks I have been relieved from three attacks of intermittent fever. The first attack was violent. The second was brought on by exposure in wet weather. The third, several weeks after the second, was also occasioned by a violent cold.

“Each attack was accompanied by a violent fever, pains in the bones, wandering pains and chills through the whole system, and a very afflictive pain fixed in the back, and across the loins, attended with lassitude, weariness, restlessness, and anxiety. These attacks were preceded with several days premonitory indisposition.

They were all removed, in each instance, by one application of your Liniment, applied over the whole surface of the body, and keeping up a profuse perspiration thereby produced, by warm bricks to the feet, and covered warm in bed. To secure against relapse, I applied the Liniment to my breast, on several succeeding days. The effects of the Liniment in producing a sudden and copious perspiration, the composure and quietude it brings over the nerves, and the sudden restoration of appetite which follows, invariably, its application, are truly surprising. In every instance alluded to, I felt myself perfectly relieved of all disease, on the ensuing day, which, after all our experience and knowledge of facts daily occurring, and considering my advanced period of life, and the severity of the paroxysm, could not fail to excite the admiration and surprise of myself and family. We used the Liniment freely.

“T. H.”

MEASLES AND SCARLET FEVER.—Six months ago, my child, then three years old, was attacked with measles and scarlet fever at the same time; throat much swelled, with choaking and rattling in it; burning fever; and, to appearance, much excited with pain. The cords of his neck and cheeks were much swollen, and were very hard. His mouth and throat were raw. I gave him a spoonfull of sweet oil, and then applied Jewett's Fever Liniment to his neck, and all over his body at night. The child was thrown into a perspiration, rested well through the night, and in the morning all the dangerous symptoms were removed. The child had a good appetite, and in a few days was perfectly cured, without the use of any other medicine.

A. S.

Extract of a letter from a physician, on cutaneous absorption.

FACTS ARE BETTER THAN ARGUMENTS.—“I have known the Liniment to produce profuse perspiration in a few minutes, relieve violent pain, and throw off a fever in a few hours. In bilious fever I have used the Liniment much to the comfort of the patient, in removing *sick stomach, head-ache, back-ache, etc.*, often

in ten or fifteen minutes. It is also most excellent in *rheumatism*, and is a sure cure for nervous head-ache, if persevered in.

“I could produce certificates for the cure of the piles, by the use of the Pile Salve, in one case of thirteen years, and in another of twenty years standing.

“The Cerate I know from experience, to be excellent for the cure of burns, scalds, and sores of every description; also sprains, bruises, etc.

“The Head-ache Liniment seldom fails to relieve in five or ten minutes, and if persevered in, *never* fails to perform a perfect cure.

“I could at this time publish more than one hundred testimonials, proving the above facts. For cholic pains and bowel complaints, in infants, the effect of the Cholera Morbus Liniment is truly astonishing, frequently producing instantaneous relief! And still will it be longer contended, against all of the above facts, that there is no cutaneous absorption?

“T. N.”

CHILLS AND FEVER.—I had a severe attack of chills and fever, attended with pain in the head, breast, and loins, loss of appetite, etc. I had been in this way for some days, and found myself growing worse continually. I made use of Jewett's Fever Liniment, at evening, agreeably to directions given in such cases; it produced plentiful perspiration. Next morning I found the fever was gone. I discharged bile freely, by the bowels, and have not had any symptoms of the complaint since.

I have not the smallest doubt that, in case I had not applied the Liniment, I should have had a long and lingering spell of sickness, as that has formerly been the case, in several preceding seasons in which, notwithstanding the faithful use of all other means, I have had a similar complaint continuing with me for months; but which, in this case, I was relieved of in *one night, without the aid of any other medicine.*

J. R.

WHITE SWELLING AND PILES.—Thy Liniments have performed wonderfully. A white swelling on a boy's knee, which had been for three years standing, and pronounced beyond the reach

of medicine by a physician, has been cured. One case of long standing of piles has been cured with the Pile Salve. There are several cases within my knowledge, which have been cured with the Stimulating Liniment, the particulars of which I will hereafter furnish thee.

B. W.

Extract of a letter from J. W. Esq. of New-York, dated September 16, 1835.

CHOLERA.—“A neighbor of mine was recently taken with the cholera. All the symptoms indicated a violent, sudden, and fatal termination of that disease. Your Liniment was fully and faithfully applied, and in a few minutes he said he felt as if he were in a new world; reaction took place, and he soon recovered. The man declared it as his opinion, that he could not have lived fifteen minutes, had it not been for the Liniment. Our physician told me your preparations were the cheapest medicine he ever met with. He says your Pile Salve never fails, when *properly applied*.”

From the Rev. J. B., M. D., October 30, 1835.

RECOMMENDATORY LETTER.—“Your medical preparations, so far as I have had an opportunity of trying them, have answered all the expectations raised by your Advertiser, and were it necessary I could furnish you some additional testimony of their adaptation to the cure of disease. In every instance where I have recommended their application, positive benefit has been derived, and the most entire satisfaction expressed by the patients using them. I have not known them used in a *single case*, where they have not been *sovereign and all-sufficient*, in affecting what they were designed to accomplish.”

From a letter of Dr. M. G.

PARALYSIS—AFFECTION OF THE SIDE.—“My own health, for some time, has been in a feeble state, and from some unknown

cause, I suddenly became much worse. A cessation of a proper circulation appeared to take place on one side, leaving me in a most distressed situation, attended with much pain. I made a liberal application of your Liniment, and the effect far surpassed my expectations. I was immediately free from pain, and am rapidly on the recovery of health; my appetite, from being very poor, is fast returning to its proper state; and I have a desire that the community generally, may become acquainted with the salutary effect of these invaluable remedies, in relieving the afflicted."

From Dr. J. S.

FEVER AND SICK HEAD-ACHE.—"From the trials made of your medicines, they are greatly approved of: in one case of fever, particularly, a patient given over, and thought by all to be past recovery, by a thorough application of your Liniment for fever, has been restored, and is now able to be up and about. The patient is the wife of a respectable gentlemen who was violently opposed to your medicines, but now convinced of their power to heal. When the box came to hand, he himself was laboring under a violent sick head-ache: he applied the Liniment to his head, and, in just four minutes by the clock, he was perfectly at ease. He continued its use for a short time, and is entirely cured of the complaint to which he had been subject."

*Extract of a letter from Dr. John Steele, of Frankfort, Missouri,
October 16, 1835.*

REMARKABLE CASE AND CURE OF A CHILD.—"I have used two bottles of your Liniment upon my infant child, *who has never seen a well day in his life*. He is now eleven months old, *and was born with disease*. When he was three weeks old, he weighed *three pounds when dressed*: he now weighs seven pounds. From the time he was born until the present, he has been kept alive by botanic medicines, and chiefly by injections. Had I kept a regular account of all the applications and medicine given, it would astonish thousands; it is now better, and has a prospect of

recovery. Should he get well, I shall ascribe the praise, under God, to your Liniment. When he was about a month old, he broke out on his hips, thighs, and legs, like a burn or scald, and would blister as bad as if flies had been applied. It would continue in this way for three or four weeks at a time, and then dry up for a few days, and then come out again in the same way, only spreading more each time, successively, until it got nearly all over him. *At one time, he did not open his eyes for eleven days, and often, in that time, the blood would run down from his eyes, on his cheeks, to his neck.* I have been thus particular, in order, should he live, you may see what has been done by your remedies, and that the world may be benefitted thereby. What I have said, is but a faint representation of his sufferings, but I have now strong hopes of his recovery from all disease."


Extract from the same, dated February 23, 1836.

"About the last of September, I received your Liniment, the child having grown much worse: in August, it was blind eleven days, and I then expected both eyes would run out. When the Liniment came to hand, I applied it to all parts of the body that were sound, and the Cerate to the sores. At first, relief was very perceptible, and then no further improvement appeared for perhaps six weeks; *and had you not written to me to persevere, I should have given it up as irretrievably lost.* After the time mentioned, we began to discover that the plaster applied to the stomach had an evidently good effect. The stomach was relieved from the tough phlegm which had been the cause of much of its suffering. It gradually mended, the eruptions became less, and soon after entirely disappeared."

Extract from the same, March 15, 1836.

"I am happy in informing you that your remedies have proved a blessing to me in restoring my afflicted infant child to *perfect soundness*; it is now free from all disease, and is full of *life and activity.* *It has been entirely well for two months, and is grow-*

ing as fast as any child. I could give you many cases where your medicines have been applied to the saving of life ; but it appears useless. Any one still disposed to doubt, in this region, would not believe though one should rise from the dead and declare it."

 The experience in practice and application of our medicine presented in the above case, shows, in a most striking manner, how important it is to *persevere* until relief be obtained. The child to whom we refer, and whose case is represented in the letter of Dr. Steele, is now nearly four years old ; enjoys good health at this time ; and, in fact, far better than that of any member of the family, with fair prospects of its continuance.

Extract of a letter from Dr. T. N., M. D.

"Your most excellent Liniments have aided and accelerated cures in *many cases*. The more I use your remedies, the more clearly is the doctrine of cutaneous absorption demonstrated to my mind. In *fever cases*, your remedies are, indeed, invaluable, *invariably removing all pain when properly and thoroughly applied*, and producing a full and free perspiration. I can, with the utmost confidence, recommend them to the whole family of man."

Extract of a letter from Dr. J. V. D. G.

BILIOUS FEVER.—"I have seen much good consequent to the use of your medicine, but will trouble you with the relation of two remarkable cases. Maj. D. P. C. was taken very suddenly with vomiting, pain in the head, back, and extremities, with high fever, which progressed rapidly, and, in the course of ten hours, he became entirely delirious—a wild look of the eyes—face very much flushed—and required three persons to keep him in bed. Every person had despaired of him, and was conscious he would die. He had been puked freely, and every other known means made use of, to no effect. I, however, resolved to make a bold effort to save him, and proposed trying your Liniment, which was agreed

to. I commenced by shaving the head, and then rubbed it on well; applied it all over the stomach and bowels; applied warm rocks to his feet, back, etc. In the course of three hours, he came to his proper senses. In three days he was walking about in his room, and in a few more was off visiting his friends.

The other case, in which your *life-saver*, (I call it) has had equal effects as in the above, was that of a lady, who had been salivated so much, that the jaw had sloughed partly off. Parts of her flesh had mortified, where repeated blisters had been applied. I thought it a bad chance to save her, as part of the jaw-bone was bare. I, however, commenced the application of the Liniment, and, to my utter astonishment, in a week the parts commenced healing, and in *three weeks* she was entirely well. The Liniment checked the mortification as soon as applied, and has been the means of saving her life."

REMARK.—It was a long time after we were aware of the fact, that our Liniments would instantly arrest *fevers* of every type, that we ventured to say any thing on the subject, being satisfied it would require more faith to believe the astonishing fact, than any man's assertion would create. The fact is now well established by hundreds of cases, which have been cured in less time, and with less expense, and much more certainty, than the world ever witnessed, by any practice heretofore known; and had the talented writer of the foregoing letter understood, what by practice he will soon learn, when he applied the Liniment to Major C., the major would probably have been well on the following day. In all such extreme cases, we apply the Liniment over the whole surface of the body, once in two or three hours, and warm up the system as rapidly as possible, thereby producing a free and copious perspiration, which is kept up with warm bricks to the feet and sides, if necessary. We also give our Diaphoretic Drops freely.

Extract from a letter of S. M., Indiana.

WEAKNESS AND TREMOR.—“I have tried thy Liniments in several cases with very good success. I will give thee one case. A child of twelve years old was taken with a *tremor*, *weakness*, and

lameness in her knees and legs ; legs much swelled and appetite gone. I bathed her feet and legs in warm water, wiped dry, and applied the Liniment from the knees down ; put stockings on, and hot bricks to her feet. First night some improvement ; next night repeated with good effect ; third night rubbed the breast, spine, sides, legs and feet as before, and drank warm teas as she got up in the morning. Apparently well, and still remains so, with a good appetite."

NOTE.—If the patient in the above case had received a *thorough* application of the Liniment all over the body in the *first instance*, with hot bricks to the feet, and the exhibition, freely, of our Diaphoretic Drops, it would have saved her two days sickness, and much pain and trouble.

Extract from a letter of Dr. J. C.

FEVER, SORE EYES, ETC.—“I have fully tested the virtues of your medicine to my entire satisfaction. Your Cerate is invaluable, and exceeds every other article of the kind of which I have any knowledge ; but I know not which of your preparations is entitled to a preference, when compared to others of your make. I will give you a case or two, among many proofs of their efficacy.

“My wife was attacked severely with fever. I applied your Liniment, and in less than fifteen minutes she was relieved from all pain, and in a free perspiration. She was perfectly well in a few days.

“A young lady scalded her foot badly. Blisters had arisen all over the top of the same. I applied the Cerate, and in five minutes the pain was entirely gone. In a few days the scald was entirely healed and cured.

“Some weeks since I suffered severely with sore eyes, occasioned by loss of sleep and exposure to cold. I applied eye-waters of various kinds, and all means within my knowledge, without gaining any relief. I had many patients to attend to, day and night. I resorted to a trial of your Cerate. In a few minutes from the time of application of it, all burning pain left my eyes. I went to sleep a few hours, and when I awoke, found great relief. I continued to apply it a few days, and completed a perfect cure, has continued without a return of the disease.

“I have since applied it in several cases of sore-eyes, with perfect success in all.”

Extract of a letter from Dr. D. I.

COUGH OF THIRTEEN YEARS STANDING CURED.—“Mrs. G., on hearing the reports of the virtues of your preparations, called on me for some of the Cough Liniment. She had a severe cough of thirteen years standing, which had defied all skill and medicine within her power to obtain. I supplied her with one bottle. She soon applied for another; and before the last bottle was entirely used, she informed me that her cough was entirely cured, and her health completely restored.”

DISLOCATED JOINT.—One of my sons fell and put his shoulder-joint out of place, and cracked the collar-bone. I set the arm into its proper place, and applied Jewett's Liniment, which relieved him at once from pain. I continued the application for a week. His arm was swung up three days. In ten days his shoulder was perfectly well.

J. R.

WEAKNESS IN THE LIMBS, ETC.—My son has been afflicted for five years with *weakness in his limbs*, and severe pain in his side, until sometime last spring, when he was entirely confined to his bed. He was troubled with the bowel-complaint, and one of his thighs and arms had perished away very much. Two months ago he commenced using your Liniment, which cured him of the bowel-complaint directly, and relieved him of his pain. His joints and limbs, (which were drawn out,) are coming into place, and his thigh and arm gaining as to size.

PAIN IN THE SIDE AND AGUE CAKE.—A daughter of mine was afflicted with a pain in her side, and a cake which seemed to be formed under her ribs, attended with severe cough. The application of your Liniment relieved her of all those complaints in a very short time. A nail was run into the foot of a child, which affect-

ed it all over the whole system. The application of your Liniment wholly relieved the child from pain, and the foot got well immediately.

C. D.

From Dr. J. C., January 1836.

NERVOUS AFFECTION.—“There has been a disease prevailing in this region, for some time past, which has been very violent from its first appearance. It is attended with excruciating pain in the ear, jaw, temple, neck, shoulder and side, and sometimes immediately followed by delirium and general debility. I have attended a number of cases, and have been so fortunate as not to lose a patient. One of my children was attacked with the disease two days ago. I applied your Cholera Preparation over the whole body; at the same time gave an emetic and an injection; in one hour she was entirely relieved, and fell into a sound sleep, at which time I was obliged to leave her, and did not return for twelve hours, when I found her in a violent fever. I immediately applied the Liniment thoroughly, which caused a free perspiration in a few minutes, which was kept up for several hours, and she is now entirely well.”

From Rev. A. B.

INJURY OF THE CARTILAGE OF THE HEEL.—“In July, 1835, while walking the street, I stepped a little crooked on the pavement, when I felt something give way, like the tearing of the tissue between the muscles of the left heel. For ten days after, I continued to walk on it as usual, feeling it tear a little more now and then; but at the end of ten days my leg became very painful, and my whole system was so affected, that to the ends of my fingers and toes I was in acute pain, and my jaws began to stiffen at the joints. In this situation I sought relief from the highest sources of skill, and applied various remedies as directed, but gained nothing more than partial relief. I was compelled to use crutches, and traveled in a light wagon. On the 20th of September I went to Columbus, Ohio, where a friend gave me an ounce of Jewett's Stimulating Liniment, which I applied according to directions, and

in one week I could go *without crutches*, and in two weeks could walk without limping. The heel continued to strengthen from the use of it until the 10th of January following, when my supply of the Liniment was expended; at which time, and for several weeks previous, I felt free from all inconvenience from the wound."

From Dr. T. N.

PLEURISY, HEAD-ACHE, SCALDS AND SMALL POX.—“The effects of your Liniments are astonishing to all who try them. I have been completely successful with them in *Pleurisy, Measles, Head-ache, Scalds*, and applied them in one case of *Small Pox*, which they cured without any other medicine, in a very short time.”

From Dr. W. H. F.

MEASLES AND FREEZING.—“I will mention a few cases in which your remedies have been eminently successful :

“MEASLES.—A boy afflicted with measles, oppression of the lungs, wheezing, or difficult respiration, whose obstinacy precluded the possibility of administering medicine internally, was rubbed freely with Stimulating Liniment, over the limbs, breast and sides, upon which the Measles came to the surface. The result was, the boy got well in a very short time, without having that dangerous cough which usually follows that disease.

“FREEZING.—By exposure by riding in a very cold day, I had both feet frozen, so that upon a moderate application of the hand, in the act of rubbing to produce a circulation, a detachment of skin came off, as though hot embers had been applied to the part.

“I immediately applied the Cerate, and so sudden and effectual was the cure, that after the following morning, no inconvenience was experienced, except a sense of tenderness to the touch.”

SCARLET OR TYPHUS FEVER.—“During the winter past, there has been a most obstinate fever prevailing in this region, called by some physicians, Nervous Typhus, and by others, Scarlet Fever.

Those who survived, (for but few recovered at all,) have lingered from twelve to twenty weeks. One man continued, after getting about sixteen weeks, and then died. In fact, very few recovered entirely.

Two young men, who had the same complaint as those who died, and were equally afflicted, were treated with Jewett's Fever Liniment, and were immediately relieved; and within four days were out of danger, and since regained their health as sound as ever."

C. R.

From Dr. D. I.

SCIATICA.—"About four weeks ago I was attacked with a severe pain in my left thigh, seated a little below the hip joint, and extending somewhat lower, to the knee. This was on Wednesday. On Thursday the pain and sickness increased. In the evening, before going to bed, I applied Stimulating Liniment. Friday it was still worse, and in the evening the Liniment was applied as at first. On Saturday it was worse than ever. I have been thus particular, to show how necessary it is, not only to persevere, but to *begin* in earnest, and make thorough and repeated applications at first, in such cases. On Saturday, I was determined to give the Liniment a fair and thorough trial. I used it three times during the day, with much friction, by a hot stove, and once again before going to bed. At the last time I had my back well rubbed. On Sunday the Liniment was used three times, from the hip to the knee. On Monday it was entirely well, and remains so to this day."

From J. D., M. D.

RING BONE ON THE ANKLE.—"Your Liniment is in very high repute in my practice. In one case it has performed a cure, pronounced by medical gentlemen of skill and science, of all orders, to be beyond the reach of medicine. The patient had walked with crutches three years, being afflicted with what the most learned among physicians called a ring-bone upon his ankle. He applied

the Stimulating Liniment six weeks, and had no more use for his crutches. He was perfectly cured, and remains so to this day. *Consumptions, liver omplaints*, and pains, in all instances, have been relieved by your remedies.

AN INTERESTING CASE.—“I was called to prescribe for the daughter of a Mr. D., of Franklin county, Ohio. She was ten years old. When I first saw her, her joints were much swollen; flattened ribs; great incurvation of the spine, from the first superior lumbar vertebra to the inferior cervical vertebra of the neck; general emaciation; diseased state of the lymphatics; running in the immediate vicinity of the alimentary canal; consequently a derangement of the bowels; lower extremities much swollen; pain over the region of the lungs, on the right side; protuberance of the belly, attended with hardness and acute pain to the touch; all of which rendered her entirely unable to rise from the bed. She was at the same time affected with a severe cough, attended by flashes of fever. In this distressed situation, I commenced the application of Jewett’s Liniment over the whole surface of the body, at the same time applying plasters of the same over the more immediate regions of the pain. I also gave her internally Jewett’s Vegetable Syrup, accompanied with Diaphoretic Drops. On the first night after the application, the patient was relieved from violent pain; shortly after, her bowels became regulated; and by continuing this course about six weeks, the patient has been cured of all the above complaints, and is now, to all appearance, in perfect health. I consider this case one of the most extraordinary I have ever met with in my practice. When I first saw her, I had but little expectations of affording her any permanent relief.

WM. J. R., M. D.

From Dr. B. R., M. D.

COLD PLAGUE.—“The first case in which I applied your Liniment was in a severe attack of cold plague. The patient had dry skin, much fever, strictures in the breast, pain in the head, bowels, and limbs. He soon became entirely deranged. I applied the

Liniment to the whole surface of his body ; gave him freely of the Diaphoretic Drops ; placed hot bricks to his feet and sides, which caused a profuse perspiration. He came to his right mind, the fever was reduced, and the next day he was able to set up. I made another application of the Liniment, which entirely cured him, and on the third day he was enabled to attend to his ordinary business."

TUMORS AND ERYSIPELAS.—"A Mr. C. of Fayette county, had been troubled for a long time, with a breaking out on his legs. Very large lumbs appeared; much heat, and very much inflamed, and attended with severe pain, so that he was frequently unable to attend to business. He had offered large sums of money to be cured, but could obtain no relief. By the use of the Liniment and Diaphoretic Drops, he was cured of the complaint in about one week, and still remains free from disease."

COLD PLAGUE.—"Another case.—The wife of M. C., Esq., was violently attacked with cold plague, in its most frightful form. The third day after she was taken, she was bled with bad effect; her friends considered her beyond the reach of medicine, and that opinion seemed to be grounded in part, by the evident loss of hope expressed by her physicians. For myself, I saw no hope from any medicine or mode of treatment of which I had any knowledge, and made trial of your Liniment, as an experiment. I caused the Liniment to be applied over the whole surface of the body, and placed hot bricks to her feet; but such was the torpid state of her system, that these applications appeared to do no good. In a short time I repeated the same means, and the third time, placed a plaster of the Liniment on her breast, over which a bag of hot oats was applied, which soon caused a copious perspiration. Her fever was in a short time reduced, her pains left her, and within twenty minutes she fell into a gentle sleep. The next day she was free from pain, and enabled to sit up; and in about three days after, she was entirely restored to health."

DYSENTARY AND DYSPEPSIA.—Josiah Rush, of Madison county, Ohio, has been afflicted two years with the dyspepsia, very se-

verely; so much so, that his physicians had despaired of his life; and for the last nine months he has had a continual dysentery. He assures me, that within the period of the affliction, he had voided more than six gallons of blood; was in continual pain; and most of the time was obliged to go to stool several times in an hour. In this situation I was called to prescribe for him; and my first application was made of Jewett's Liniment, over the abdomen and back, which relieved him of pain, and checked his bowel complaint. He continued this course for about three weeks, which entirely relieved him. His bowels have become regular, and he is at this time in good health.

WM. J. RADCLIFF, M. D.

Columbus, June 8th, 1836.

From Dr. L. G., M. D.

ASTHMA.—“A negro woman of ours, that had been afflicted with the asthma for twenty years, has been entirely cured by the use of your Liniment and Pectoral Tincture. It is now seven months since she has had any symptoms of the disease.”

From Dr. B. R.

PAIN IN THE SIDE, COUGH, ETC.—“A Mrs. G., a neighbor of mine, had been afflicted for several months, with soreness of her limbs, pain in the side and breast, loss of appetite, cough, and restlessness at night. She grew so bad, that I was at last called, and applied your Liniments, and gave her of your Syrup, for three days, when she was entirely relieved of all her complaints, and is now entirely restored to health.”

RHEUMATISM.—“Mr. G. then employed me to doctor his son, who had been for three years severely afflicted with the *rheumatism in his shoulders, back, hips, knees, and ankles*. His thighs and legs had perished, so that they had almost the appearance of a skeleton. I applied your remedies for the rheumatism fully in this case, and in a few days he was able to walk, and is now entirely well.”

INFLAMMATORY FEVER.—A Mr. R., was attacked violently by an inflammatory fever. Dry skin; pain over the whole body; delirious, and was considered almost beyond the reach of medical aid. I thought this to be a good case for a still more thorough trial of the efficacy of your Liniment for Fevers, and was determined to try it without the aid of an emetic. I did so, by rubbing it over the whole surface of the body; gave him Diaphoretic Drops, which allayed the pains, and produced a gentle perspiration in fifteen minutes. I ordered the Drops continued three hours. The next morning I found the fever gone, and the patient entirely relieved.

SEVERE CASE OF CHOLERA MORBUS AND FEVER.—About the last of June I was suddenly attacked, at midnight, with pains and sickness at the stomach, which continued until daylight, when vomiting, diarrhea, cramps in my limbs, high fever, and pains of the most excruciating severity over the whole region of the body, rendered me unable to rise from my bed; in fact, I expected nothing but speedy dissolution. In this distressed situation, relief came through the agency of Col. Jewett's Liniment for Fever; a friend applied it twice over my whole body, put hot bricks to my feet and sides, applied hot cloths to my stomach and bowels, and gave me stimulating powders. These preparations caused a profuse perspiration, which continued nearly two hours. As soon as the sweat commenced, I became measurably relieved; soon after my pains ceased, and the fever was gone. About one o'clock I was washed all over with soap-suds; the Liniment was again applied, and clean clothes put on. My appetite began to return; I slept well the succeeding night, and the next morning was able to attend to the avocations of my family. I had been unwell for two weeks before this attack.

Columbus, Aug. 18, 1836.

C. S.

REMARK.—We saw Mrs. S. during her distressing illness, and, from our intimate acquaintance with the spasmodic cholera, we should have pronounced her case one of that character, had the epidemic been among us. In fact, of all the frightful cases of that disease, we have seldom seen one more distressing.

From Dr. B. E.

RHEUMATISM.—“A Mr. H., of this county, had been afflicted by rheumatism five months, and was cured by a full application of your Rheumatic Liniment, in four days. We first cleansed the system, and then applied the Liniment. Another patient, who had been crippled nine years with the same complaint, has been cured in a very short time, by the application of your remedies for that disease.”

WOUNDS.—“One very bad wound, cut to the bone with an axe, was healed sound in four days, by the use of your Cerate.”

NERVOUS HEAD-ACHE.—“My father had been afflicted nine years with nervous head-ache, and no relief could be obtained by medicine. I made one thorough application of Liniment for Head-ache; the pain was gone before I had done rubbing on the Liniment, and it did not return again for many months. This, however, is only one case out of *many* which have been cured by your Head-ache Liniment. I consider it a sovereign remedy for all kinds of head-ache.”

From Dr. A. McG.

HYDROCEPHALUS.—“I am happy of having it in my power, to state that a most alarming case of hydrocephalus has yielded to the persevering use of your Stimulating Liniment. In all my experience, I never witnessed so distressing an object who survived. *Every suture* was open to a considerable extent; the head hideously enlarged; the scalp protruded much above the sutures; the eyes were violently distorted; pupils dilated; in fine, *every symptom* usually attendant on the last stages of that dreadful disease, was evidently shown. The Liniment was applied three times a day, with friction of the hand, and washed with soap suds every three or four days, wearing a flannel cap, as steadily as circumstances permitted. An application was also made, in like manner, to the stomach and bowels, say sometimes once, and sometimes twice a day.”

From Dr. A. E.

GENERAL DEBILITY.—"The first case I have to mention, was the wife of J. M., who was, in January last, afflicted with general debility, cramp in the stomach, and pains over the whole body. I gave her the Antispasmodic Tincture, which gave some relief. She was then attacked by slow fever, from which she was partially relieved; but soon after there appeared an ague cake in the side; hoarseness, general emaciation, loss of appetite, and a sense of extreme burning and sickness at the stomach, which I was unable to remove, by any medicine in my possession. I was therefore induced to resort to your Liniments, which I applied faithfully, and to my utter astonishment, she gained almost instantaneous relief, and was, by a continued application for a few days, restored to perfect health, and so remains to this day."

CROUP.—"A child of T. R. was violently attacked by an inflammatory fever. I was called in about twenty-four hours after the attack, and applied your Fever Liniment to the throat, back, breast, bowels, hands, and feet, which caused a free perspiration, and in less than two hours relief was obtained; and after a second application, the child was perfectly restored to health. I could wish that thousands of mothers could know these facts, as it required but half an ounce of Liniment to effect a cure, and no internal medicine was administered."

FITS OCCASIONED BY CROUP.—"A child under my care, who had had four severe fits, probably occasioned by the croup, was almost instantaneously relieved by one application of your Liniment. I found a second application unnecessary."

QUINSY.—"A man by the name of P., was so afflicted, that he was unable to open his mouth. I applied the Liniment three times, which entirely cured him."

MENTAL DERANGEMENT.—"I was called to visit a man in Knox county, who had for some time been laboring under mental derangement. He had been attended by gentlemen of skill and eminence, and given over by them as incurable. When I first saw him, his bowels were considerably protruded; legs, feet, and

arms cold; and was generally debilitated. I applied your Fever Liniment to his legs and arms, and the Nerve Liniment to his head, neck, and on the whole length of the spine. He directly became partially relieved. The same application was made a number of times, and in a week after, he went to Mt. Vernon on business, in his right mind. When I first saw him, nearly every third pulse intermitted; in less than one hour after the first application, they became regular."

RHEUMATISM.—"A Mr. I., of Newark, had for years been occasionally afflicted by rheumatic pains. When I was first called to prescribe for him, he had labored eighteen days continually under a severe paroxysm of the disease. I applied the Liniment for rheumatism three days, accompanied by Diaphoretic Drops and ner-vine tincture, which cured him of the complaint."

BRONCHOCELE.—"L. M.'s wife of Clay Lick, has been afflicted for twenty years with bronchocele to such a degree, that she was unable to bend her neck, or look down on objects near her, and was much distressed in respiration. She applied the Stimulating Liniment, and gained much immediate relief. The swelling diminished fast and at this time she is entirely free from the complaint."

From Dr. G. B. Key, Portersville, Mississippi, Sept. 2d, 1836.

CHILLS, FEVER AND FITS.—"With regard to chills and fever, I have *never* failed in curing it by one or two applications of your Fever Liniment. It is very rare indeed that two applications have been necessary.

"I cured one case of fits with the Nerve Liniment in two hours, without any internal remedies, for the patient was rendered incapable of swallowing by the severity of the disease.

"With your remedies I can cure fevers in one-half the time that it will require by any other practice."

RHEUMATISM, LIVER COMPLAINT, DROPSY AND TUMEFACTION.—
"I certify that my wife, aged sixty years, has been afflicted for

the last seven years with the liver complaint. The whole body became much swollen, and was severely afflicted with the rheumatism; her flesh drawn up into knots in different places; joints stiff; soon after she was afflicted with the dropsy. With all the medicine I was able to procure, she obtained no more than temporary relief. She became afflicted with large tumors on her shoulders, arms, knees and ankles; a nervous affection, and bowels much out of order. In this situation, I applied Jewett's Stimulating Liniment on the whole surface of her body, at the rate of four ounces per week, for a considerable length of time, without any sensible effect. I gave her diaphoretic powders, and, by the application of the Liniment for four weeks, I discovered the tumors became softer, and her dropsical affection was relieved. By a continuation of these remedies, her tumors are at this time nearly gone, and her general health improved, with a fair prospect of enjoying a comfortable degree of health.

HENRY PICKERELL, of Logan Co.

Columbus, Sept. 6, 1836."

From Dr. A. E., Newark, Ohio, Sept. 2, 1836.

CHRONIC DISEASES. PROMOTION OF EQUILIBRIUM.—“In my practice, I have found your remedies the most ready in producing an equilibrium in the system that I have ever met with. In chronic diseases, when the patient has been reduced to death's door; pulse hardly perceptible, and extremely slow, I have, by the application of your Liniments increased them thirty beats in a minute, in less than an hour: and, in other cases, where the pulse ran to one hundred and twenty beats in a minute, I have, by the same process, reduced them to eighty, in six hours. Thus these remedies restore vital action with a readiness heretofore unknown in the practice of medicine.”

From Dr. B. E., Salisbury, Meigs co., Ohio, Sept. 12, 1836.

CHRONIC AND PULMONARY COMPLAINTS, FEVER, PAINS, PHTHISIC AND DYSPEPSIA.—“I have long been trying to get time to doc-

tor myself for chronic complaints, the greatest of which is dyspepsia. But a press of professional business compelled me to defer it until I was prostrated with the disease. The seventh day after I commenced applying your remedies, a breaking out appeared over the whole surface of my body, like the measles, which I have no doubt was a humor which has been my companion ever since I had the measles, when about twelve years old. This was the opinion of a very learned physician to whom I applied for advice. He called my complaint consumption, occasioned by the measles striking in. I have had a cough during my illness, probably from the same cause. Notwithstanding the long standing of these complaints, I now consider them all broken up. My appetite is good, and I am gaining strength. Since I have been able to visit my patients, I have applied your Liniments to a boy who was taken the day before with a high fever, which continued intermitting until I saw him. During the whole time he was almost choking with phlegm, so much that it was distressing to be near him. I rubbed him with your Liniments from his head to his hips, and applied a plaster to his stomach, and between his shoulders; gave him some stimulating powders, and in a few minutes his respiration became easy, and in a short time after it caused him to vomit the phlegm from his stomach, and directly he called for food; and from that time he has been entirely relieved.

“A Mrs. Green, of this county, had been afflicted with pains in her side for many months. Her husband called on me. I gave him four ounces of Liniment, and I am assured it effected an immediate cure.

“A daughter of Mr. Skinner, of Rutland township, had been for a long time afflicted with the phthisic, and an eruption of the skin all over her body, which they called the hives: and for several years had had the dyspepsia. The Liniment was applied, which was the only medicine relied on. I am informed by the father of the patient that the Liniment has cured her of all her complaints, and that she is now the most healthy child he has.”

From Dr. R. C., East Monroe, Ohio, October 5, 1836.

BILIOUS FEVER, DYSPEPSIA.—“There have been but three cases

of bilious fever, (all violent,) in this neighborhood of late. Two were treated with the usual practice, and one with your Liniment and Diaphoretic Drops. These two were four weeks getting up. The one treated with your remedies was well in three days. In that case, your drops were fully tested to my satisfaction. An inveterate case of dyspepsia has been cured by the use of four ounces of Liniment and one bottle of Vegetable Syrup."

From Dr. Jonathan Morris, Whiteley, Greene county, Pennsylvania, September 24, 1836.

SUPPRESSED MENSTRUATION, CHOLERA INFANTUM, LIVER COMPLAINT, HEAD-ACHE, ETC.—“But a few weeks have elapsed since I was an eye witness to the good effects produced by your preparations, particularly your Liniments, in a cure of obstructed menstruation, cholera infantum, liver complaint, head-ache, and many other complaints. They have been of great advantage to me in my practice. I was called to see a child laboring under the last stages of cholera infantum. All hopes of recovery were lost by the friends. I applied the Liniment to the thorax and the bottoms of the feet, with some warming tea internally, and, in one hour, a change for the better was visible, and the child continued to mend, until restored to perfect health. I could give many more cases in which the good effect of the remedies was very apparent.”

From Dr. A. E., Newark, Ohio, November 1, 1836.

CONGESTIVE FEVER.—“Michael Edwards, aged ten years, was attacked with congestive fever.

“*Symptoms.*—Cold chills; pain in the head, back and limbs; flushes of heat; tongue livid, moist, and sometimes the appearance of thrush; delirium, and entire prostration, within six hours after the attack.

“*Treatment.*—I applied the Fever Liniment on the whole surface of the body generally, and the Nerve Liniment on the head and spine; gave him stimulating draughts; placed hot bricks around him, and gave him the Diaphoretic Drops as per directions,

once in twenty minutes. He was thrown into a perspiration, which was kept up for two or three hours; and the effect was, he was relieved from pain, his reason restored, and, in a degree, the fever arrested. After which I caused him to be washed in a tub of hot water, and salt and water; then applied the Liniment again. In about one day he was restored to health, though much weakened by the severity of the disease.

PALPITATION OF THE HEART AND VERTIGO.—"Mrs. Cruzen, of Licking county, was suddenly attacked with palpitation of the heart, and dizziness; and, in a few minutes, became blind and prostrated. There being no physician, and having some of your Liniment at hand, the friends applied it freely to the breast and spine; soon after she became sick at the stomach, and vomited freely, which caused a perspiration. She then fell into a gentle sleep, and on awaking the next morning, she was restored to health.

INFLAMMATION OF THE URINARY CANAL.—"Andrew Lider had labored under an inflammation of the urinary vessels for more than a year; the pain attendant on voiding urine was most intense; he became partially deranged. Every effort of medical aid had failed of giving relief, until I caused a general application of the Nerve Liniment on the back, spine, and in the region of the kidneys, and the Stimulating Liniment, on plasters, low on the region of the bowels, and on the perinæum, relief was obtained. These applications were continued for four months, and the patient is now able to attend to business.

LIVER COMPLAINT.—"Abraham Hall had been for some time afflicted with a most severe affection of the liver; extreme pain in the side and shoulder-blade; languor; much emaciation, and irregularity of the bowels. He had for a number of months been treated with various remedies, without gaining any relief. I was called to prescribe for him, and adopted the following treatment: I gave him your Vegetable Syrup freely; applied your Stimulating Liniment over his whole body twice a day; next a plaster on the affected side; gave him the Diaphoretic Drops freely, and placed hot bricks around him at night, which caused a perspiration. The case was so obstinate, that it became necessary to pursue this course for near-

ly two months; he gradually recovered, and is now attending to his usual avocations."

From Dr. A. E., September 26, 1836.

PROLAPSUS UTERI.—"A lady in Coshocton county had been afflicted with prolapsus uteri for six years. The symptoms were, nervous tremors, wandering pains, general debility and gloomy sensations, which are the usual attendants of this complaint. All efforts for relief had proven ineffectual, until I was called, and caused your Liniment to be applied on the lower part of the abdomen, on her back and breast, with plasters of the same on the bottoms of the feet. I then ordered her to make use of your Female Drops in half tea-spoonful doses three times a day. In about four weeks I saw her again when she attested she was relieved. The whole expense of medicine for this extraordinary case was but about two dollars and fifty cents.

BRONCHOCELE.—"A Miss Shannon, of Licking county, had been afflicted with the above complaint for two years. Neck enlarged to twice its natural size; system emaciated, difficult respiration, so much so as to be obliged to be bolstered up in bed during the night, and unable to perform any labor. All previous prescriptions for relief had proved ineffectual. I was called. I ordered your Stimulating Liniment to be applied to the neck two or three times a day, which was done and continued for two months, and which entirely cured the complaint. She took some of your Vegetable Syrup internally.

DYSPEPSIA, LIVER COMPLAINT, DERANGED MENSTRUATION, AND QUOTIDIAN AGUE.—"A Miss Gosnell, of Licking county, had been severely afflicted with dyspepsia, liver complaint, and deranged menstruation, for nearly two years, and when I was called to visit her, she had daily chills and fever. I commenced by applying your Liniment over the whole body once in two days, at the same time applied the Liniment three or four times a day over the region of the pain, and applied plasters to the breast, bowels, back, and bottoms of the feet; and, at the same time, gave her your Diaphoretic Drops three times a day, at which periods I applied hot bricks and threw her into a free perspiration. I also

gave her your Vegetable Syrup. This course was pursued about six weeks, when the patient was entirely restored to health.

TYPHUS FEVER.—"A young man had been four days afflicted with an inflammatory fever. I was called and applied your Fever Liniment over the whole surface of the body, with hot bricks to his sides and feet, and gave him your Diaphoretic Drops according to directions, which caused a profuse perspiration. The next morning he was up and free from fever. He took a walk, and when in a perspiration, washed himself in cold water, which threw him into a violent chill, followed by a fever of the typhoid type, delirium, wandering pains, and extreme restlessness. I commenced by applying two ounces of Fever Liniment at once, gave him freely of the Diaphoretic Drops, and applied hot bricks to his feet and sides. This caused a profuse perspiration; in about three hours he was relieved, and the next morning he was in a state of convalescence, and in a few days was able to attend to business."

From Rev. Jeremiah Hill, Muskingum county, October 14, 1836.

DYSPEPSIA, HEAD-ACHE, PAIN IN THE BREAST, AND BITE OF THE COPPERHEAD.—"I have found your Liniment very beneficial to me for pain in the breast, with which I have been afflicted. I have used it considerably on others, with good success, especially in head-ache. In one instance I found it successful in curing a severe bite of a copperhead snake. Having had occasion to travel considerably, in connection with the use of your Liniment, my health has been greatly improved, and dyspepsia cured."

From Thomas C. Lewis, Esq., Portsmouth, Ohio, October 15, 1836.

RHEUMATISM, AND SUSPENDED ANIMATION BY DROWNING.—"I have proven the efficacy of your remedies in several instances, one of which was a case of rheumatism in the knees. The Liniment was rubbed on, and a small quantity of the Diaphoretic Drops

given internally, which cured the patient. Another was the bringing to life of a boy of Mr. Clugston's watch-maker, of this place, who had been drowned by the sinking of a skiff in which he, with some other boys, was taking an excursion. When taken from the water he was entirely senseless and apparently dead. I applied your Liniment, and in fifteen minutes animation returned and he was in a profuse perspiration."

From Dr. Jonathan Morris, Whitely, Pennsylvania, October 17, 1835.

BILIOUS CHOLIC, SCARLET FEVER.—"I congratulate you on being so happy as to apply your preparation to the afflicted, and the effects thereof producing immediate relief. Last week I had one case of bilious cholic in a lady who had been subject to it. I had relieved her several times, but all medicines seemed to fail of curing, until your Stimulating Liniment was applied to the feet, wrists, thorax, and abdomen, with friction. In two hours she was relieved. Also, in the scarlet fever, I have seen its salutary effects verified. Your invaluable medicines are far superior to any I have tried."

From E. C. Keckley, M. D., Charleston, S. C., October 25, 1836.

CHOLERA, SCIATICA, SWELLING OF THE JAW, PILES.—"I have used your Stimulating Liniment in cholera. I found it to answer my greatest expectations. I found no difficulty in relieving cramps with it. It is excellent; it is superior to any other article which I have tried. I have used it in as severe a case of sciatica as I ever saw, in an old negro, with complete success, after five or six rubbings. Indeed the first rubbing produced comparative ease. I have used it in a swelling of the jaw, from a decayed tooth, with success, after a few rubbings. The jaws were completely locked. So far as I have used your remedies, I have succeeded. I can now recommend them with confidence. Your pile salve succeeded in two cases of not very long standing.

From Dr. J. B. C., Big Prairie, Wayne county, Ohio, November 2, 1836.

FITS, FEVER, INTERMITTENT FEVER, HEAD-ACHE, SPRAINS, BRUISES, AND PAINS.—“As to the efficacy of your Liniments, I have used them in two cases of fits, two cases of fever and ague, several cases of fever, sprains, bruises, head-ache, and pains of all kinds; and have found them excellent remedies for the afflicted, giving almost immediate relief in the most acute forms; and I am fully confident that in chronic complaints, which have progressed so far as to render an entire cure uncertain, relief may be obtained, and many lingering diseases perfectly cured. Not long since, I was called to visit Catharine Wells, of Clinton township, Wayne county, who was afflicted with fits. When I entered the room, the spasms were so violent that it required three men to hold her on the bed. She had been in the paroxysm six hours. I applied your Liniment to her temples, thorax and soles of the feet; gave her a tea-spoonful of your Diaphoretic Drops, and in fifty minutes she was entirely relieved, and next day about her work.”

From Dr. S. D., Sandy Creek, New-York, November 3, 1836.

HEMORRHAGE FROM THE LUNGS.—“If I had had time, I should have written to you before, concerning the wonderful effects of your Liniments in many cases. By the use of them I have saved many cases that were given over to die; especially one of bleeding at the lungs. The patient had suffered with it for eighteen months; had been bled once in two or three places to stop the pressure at the lungs. He discharged a large quantity at a time. When I began with him, I was told that I might as well go to the graveyard for a patient as to try to cure him. But, by the use of the Liniment and the other remedies, his health is entirely restored, to the astonishment of all his friends.”

From D. J., Dayton, Ohio, Nov. 17, 1836.

PILES.—“Henry Walker, of Beaver township, Greene county,

was afflicted with piles for upwards of twenty years, for which he applied every thing he heard recommended for that complaint, and got no relief. Last April he applied to me. I gave him a box of your Pile Salve, about half of which completely relieved him; he remains well to this day."

I certify that the above statement of D. J. is correct and true.

HENRY WALKER.

Certified on the 5th November.

From Dr. T. N., Xenia, Ohio, Nov. 17, 1836.

"As for your Liniments and Cerates, I cannot extol them too highly. I have successfully treated the following cases with them since I was with you, viz: hydrocephalus, fluor albus, fevers, worms, uterine diseases, milk-sickness, dyspepsia, measles, pleurisy, piles, rheumatism, diseases of the urinary functions, pains, irregular menstruation, pulmonary complaints, aphtha, flux, poly-pi, erysipelas, wens, jaundice, etc."

From Dr. D. H. Union, Morgan county, Geo., Nov. 16, 1836.

"On the 6th of August, I obtained a hundred dollars worth of your preparations. In one month, I administered to seventy-three patients, with good effect. Of these, fifty-eight cases were fever, six midwifery, two asthma, two kings-evil, two rheumatism, one dropsy, one consumption, and one broken limb; and they are all restored to health. I am entirely out of your remedies; and now I realize their value more than when I had them. I feel it a matter of much importance to possess the means of lessening the suffering of the human family, in so high a degree as I have found your remedies to do. I can safely recommend them to the public. They have so far exceeded my anticipations, that I cannot practice without them; and I find that, with the aid of your Liniment, I can attend to more patients than myself and partner could last year."

From Dr. D. H. M., Paris, Ky., Nov. 24, 1836.

“I have used your preparations in at least one hundred cases since I obtained them last summer, and I do not recollect a single instance in which there was not a decided benefit derived from them; and in many instances, instantaneous relief was obtained. Your Head-ache Liniment is very notorious; I have had calls for it more than fifty miles from this place. Its virtues have been fairly tested in this section. One or two applications have succeeded in curing the most inveterate cases I have ever been acquainted with. I am equally pleased with all your preparations, and I could say as much for all, as for the Head-ache. I cured a case of scald-head of nine or ten years' standing, with two applications of Cerate, and one of Tetter Salve.”

From Dr. M. McC., Clear Spring, Maryland, Nov. 30, 1836.


DYSENTERY, ETC.—“A few months ago I procured a few bottles of your Liniments, and applied them in several cases with great success. The first, a small child, who, from its infancy, had not enjoyed one hour of good health, was perfectly cured, and is now one of the most healthy of the family. I have also cured cases of dysentery, with your remedies, in a few hours.”

From Dr. A. W., Rome, Tenn., Dec. 2, 1836.

“I purchased two bottles of your Liniments, and gave them a trial on my son, who was very low with an inflammation of the lungs. A few applications of your Liniment, with a dose of physic, quite relieved him, and he is now in good health from these applications.”

CONSUMPTION.—Mr. Randolph Elliott, a planter from the State of Mississippi, came to Columbus in September last, and applied to us for relief from a pulmonary complaint, with which he had been afflicted for thirteen years. When he arrived in this city, he

was much emaciated—so much, that frequently he was unable to walk any distance, after being seated for some time: he had extreme weakness in his joints, swelled ankles, hectic cough, and pain in the left hypochondriac region. We applied our remedies for five weeks, in which space of time his health was nearly restored, his cough had left him, he had strength to walk several miles without any tremulousness, and he returned home with full confidence that a continued application would restore him to perfect health. The beneficial operations of the remedies in this case were so apparent, that the excretion of morbid matter by the exhalants was astonishingly facilitated, and was perceptible on the linen.

 We have since received a letter from this gentleman, stating that his appearance was so much improved, on reaching home, that some of his most intimate acquaintances scarcely knew him.

Mr. Carlos Barnes, from Michigan, came to this city about the middle of November, for the purpose of placing himself under our treatment. He was afflicted with stiffness and soreness in the joints of the lower extremities, with a very perceptible creaking whenever they were moved, and the feet palsied, occasioned by the inflammatory rheumatism, with which he was attacked five years ago. Last fall he was attacked with intermittent fever of the tertian species, which gave a desperate shock to his system, and brought on a consumptive cough, with profuse evacuations of blood from the lungs, and general emaciation. In about ten days from the commencement of our prescriptions, his cough was relieved, his general health much improved, the synovial membranes of the joints relaxed, and he, also, left us with full confidence that a continuation of the same treatment would restore him to health. Both the above gentlemen assured us they had tried, without success, every other means within their reach.

I have been afflicted with the inflammatory rheumatism for six years. About two months ago, I was taken more severely than usual. I was confined to my bed for two weeks, without being

able to gain any permanent relief. I was also afflicted with a severe cough, loss of appetite, cold chills, and sick stomach. The rheumatic affection became most distressing in my breast. From all these afflictions I have been relieved by an application of Jewett's Liniment, worn on plasters which covered my breast, sides, and back, and the bottoms of my feet. In two days after I applied it, my cough was relieved, my appetite returned, and in about a week I was able to attend to business. This relief was obtained without the exhibition of any internal medicine.

C. M. SMITH.

Columbus, Feb. 21, 1837.

CHILLS AND FEVER, OBSTRUCTED MENSTRUATION, MENTAL DERANGEMENT.—About two months ago, a daughter of S. Thomson, of Fayette county, was severely attacked with chills and fever, and obstructed menstruation, and extreme pains in the back and limbs. After having been bled freely, she became delirious, and remained for four days the most distressed object imaginable. When I was first called to her, I administered three doses of your Diaphoretic Drops, applied plasters of the Stimulating Liniment to her neck, bowels, and feet, and rubbed her generally with the Liniment, and put hot stones to her feet, back, and bowels. In a short time, she was thrown into a profuse perspiration, which gave her relief, and in a few hours her reason returned, when she was relieved from pain. The next day found her able to rise from the bed, and in less than a week restored to perfect health.

EDWARD STUBBLEFIELD.

Fayette county, January 19, 1837.

REMARK.—We have had under our own treatment, and reported to us, a vast number of cases of female complaints, in all their various distressing forms, wherein our remedies have proven efficacious in a high degree. Indeed, we have not known a failure. But we have found it extremely difficult to give publicity to the cases reported. Were the fact known, that a sure and sovereign remedy is discovered for those complaints, thousands of valuable females who are at this time laboring under uterine affections, would find means to obtain the remedies for their relief.

A case has recently come under our treatment, in this city, of a lady who was reduced to the verge of the grave by excessive hemorrhage, who was almost instantly relieved by the application of our Stimulating Liniment, and the Vegetable Syrup, and in a few days was restored to health.

INCURVATION OF THE SPINE—AFFECTION OF THE HEART AND BREAST.—Four years ago, I became afflicted in the back, with severe pains in the region of the spine; from thence, it appeared in my sides and at the termination of the breast bone. About eighteen months after suffering as above stated, the distress settled about the heart and breast. For a long period, I experienced a sharp piercing pain, once in eight or ten minutes, through the heart, terminating in the right side, that could not have been more severe had a knife pierced my body. Two years after I had been thus afflicted, an incurvation of the spine took place, by which I was drawn down, and the back bone enormously distended with severe pain. These afflictions were attended by general debility, and continued for more than three years. Having despaired of any relief, for all means tried had failed, I heard of Jewett's remedies, and, as a last resort, procured some. I applied his Stimulating Liniment for a considerable length of time, accompanied with his Vegetable Syrup and Diaphoretic Drops. I directly found relief, and continued to mend, so that, at this time, my general health is good, my back is nearly straight, and I have done more labor since my relief than for eight years before.

DAVID CULP.

COLUMBUS, *February 1, 1837.*

From Jonathan Morris, M. D., Whitely, Green county, Pa., December 16, 1836.

BILIOUS COLIC—CHOLERA INFANTUM.—"I have proven your Liniments in bilious cholic, cholera infantum, and many other forms of disease, to my satisfaction. They are far superior to any remedies I have heretofore known.

From Dr. A. W., Rome, Tennessee, December 2, 1836.

INFLAMMATION OF THE LUNGS.—, I procured two bottles of your Liniment, and applied it on my son, who was very low with an inflammation of the lungs, which relieved him; and now, three weeks after the first application, he is enjoying good health.”

From Dr. A. E., Pleasant Hill, Coshocton county, December 4, 1836.

NERVOUS AFFECTIONS —“ A lady of this county has recently come under my treatment, who had been confined in bed for two months, with general emaciation; prostration of the nervous system; lumbago; constipation of the bowels; wandering pains; and, frequently, flashes of fever. She had been treated, during the above period, by the most skillful physicians in the county, all of whom pronounced her recovery hopeless. I was called, and applied your remedies, which threw her into a state of convalescence in a few days; and, in a few days more, she was able to start on a journey to Virginia.

NUMB PALSY.—“ Another case has recently come under my treatment where the efficacy of your remedies proved all-powerful. A lady, of rather slender habit, took cold some time last summer: soon after, she became perfectly stupid, and almost insensible; her left side and left eye were apparently dead, cold, unnatural, and helpless, though she breathed freely; her pulse strong, irregular, and vibrating. In this distressed situation, she remained two or three months. When I was called, I applied your remedies freely; left her a good supply, with directions; and when I visited her again, a week after, to my utter astonishment, I found her convalescent. In this case, about ten ounces of Liniment was used in a week. From my own experience, I do not believe that one case in a thousand would fail if your remedies were freely applied.”

N. B.—Both ladies, above mentioned, enjoy good health, and are perfectly free from all disease.

From Dr. J. J. Foster, Pinckneyville, S. C., January 4, 1837.

HEMORRHAGE, PROLAPSUS UTERI, FEVER.—, I am happy to inform you that, so far as I have used your remedies, they have been attended with general good success. In an hour or two, I arrested a hemorrhage, occasioned by a fall from a horse, in a lady, who expected an abortion by the accident. Another: a case of prolapsus uteri was cured by the Liniment and Stimulating Powders, in which case the Liniment was repeated three times a day. A complete cure was effected.* I have used your Liniments in fevers freely, with good success. A negro man had had a fever for a week without medical aid: I found him helpless and deranged; he had been so for thirty-six hours. I repeated the Liniments, each three hours, over the whole surface of the body; gave Stimulating powders every half hour; and, in two hours from the first application, he was in a free perspiration, and, in an hour more, discharged freely from the stomach and bowels, and was in his right mind. I continued the above course. No other medicine was made use of, and he was able to set up the next day; he got well shortly after. A girl in the same family had the fever: she would not take any medicine, internally, at all; but, by the application of the Liniment alone, was cured of the fever in twenty-four hours, so that she has had no return of it. Her tongue became clear, her appetite good, and she is perfectly well.”

From Dr. John Steele, Frankford, Missouri, February 26, 1837.

ST. VITUS DANCE.—“I have had one case of St. Vitus’ dance since I last wrote you,—a young man about seventeen years old, whose left arm, leg, and thigh were greatly affected—his mental functions were much impaired, attended with symptoms of consumption. I brought him to my house, and commenced the treatment of his case by giving him diaphoretic tea, and on the second day an emetic, at the same time making use of your Nerve and Consumption Liniments. The fourth day, I used a vapor bath,

* It is now no longer an experiment; thousands have been cured, who, until of late, had no other prospect than to “linger in pain” all their days.

etc., still using the Liniments. As soon as this was done, he came to his proper mind, the spasms were allayed, except a slight moving in his hand, which continued for a few days. He has been here two weeks; has been mending every day, and is now well."

From William P. Payne, Esq., Flat Rock, Ky., January 8, 1837.

CHOLERA, MALFORMATION OF THE HEART.—“More than two years ago, I gave you a statement of my afflicted child, of seven years old. He was, as was thought, a *blue* child. The most learned physicians pronounced it a malformation about the heart, or obstruction in the ventricles. All the faculty who examined him pronounced his case incurable. I applied your Stimulating Liniment to the child, and placed plasters over the region of the heart—dressed him with flannel shirts, and continued this course until his skin became tender, when I discontinued the application. From the use of the Liniment, his health is greatly improved, so much that we have ceased giving him any thing in the way of medicine. In the summer of 1835, the spasmodic cholera visited us. This same boy was attacked very bad: I gave him stimulating medicine internally; rubbed him with the same over the surface of the body, and then, with your Liniment, applied a plaster of the same over his stomach and bowels; applied hot bricks to his sides and feet. In twenty minutes, the rice water discharges were checked *entirely*, and in two hours he was up and about the house. His eyes had sunk, his features distorted, his skin shrunk, before I could produce a reaction; but his recovery was *instantaneous*. One of my servants, who was unable to labor more than half the time, has, by the application of your Liniment, been greatly improved ”

From John Naylor, Esq., St. Charles county, Missouri, January 9, 1837.

“I would suggest the propriety of an arrangement for a deposit

of Jewett's Remedies in this State, if there be not already such an arrangement made. I the more readily recommend the above from the fact of having received relief by the Liniment myself. In descending the Ohio river in July, 1835, in a steam-boat, I experienced a severe attack of the stomach and bowel complaint. A gentleman on board recommended and furnished me with some of the Liniment, the application of which had an *immediate* salutary effect. In experiments made since, with the same medicine, I have always found it proved beneficial."

REMARK.—Were every boat that descends the Mississippi furnished with our Liniments, a vast amount of human suffering would be mitigated. The application is so simple, and the relief so ready, that it would seem to be designed peculiarly for sailors. We know of many who will not sail without it.

*From Dr. Aaron Edwards, Pleasant Hill, Coshocton county,
January 10, 1837.*

CONGESTIVE FEVER.—“A daughter of a Mr. Nichols, of Licking county, was attacked in November last, with congestive fever. The symptoms were, pain in the head, back and limbs; cold chills in the back; cold extremities; convulsive twitchings in the limbs, accompanied with a burning fever; delirium; eyes protruded; tongue moist, with a red appearance through a milky coat of white. In fact, every symptom indicated sudden dissolution. About twenty-four hours after the attack, I was called to prescribe. I applied the saline vapor bath, with a free use of the flesh brush, and friction with the hand; caused your Fever Liniment to be applied over the whole surface of the body, and applied hot bricks to her feet and sides; gave her Diaphoretic Drops, which caused a free perspiration in a few minutes, which appeared to arrest the disease at once, for she became convalescent in a few hours. Two days after, finding some lingerings of the fever, I applied the same course to her again, which restored her to perfect health in three days.

WHOOPIING COUGH.—“One of my own children was attacked a few days since with the whooping cough. I prescribed no medi-

cine for him for several days, when I applied your Cough Liniment to his neck, back, breast, and the bottoms of his feet, which at once stopped his whooping. In three hours after, I made a general application of the same Liniment, and the third time I applied it, he was entirely relieved of the complaint, and it has not returned on him.

PAINS IN THE BREAST, SICKNESS AT THE STOMACH, AND LOSS OF APPETITE.—"A young lady in Roscoe was severely afflicted with pains in the breast, sickness at the stomach, and loss of appetite. She was perfectly cured by one application of your Stimulating Liniment. In this case the Liniment was very freely applied to the stomach, which caused vomiting equal to that of an emetic.

CASE OF PUERPERAL FEVER.—"In October last, the wife of John Miller, of Licking county, was brought to bed, and the placenta was removed by force; orthopnœa; located inflammation, and distension of the abdominal and uterine parts. In this situation, she took a violent cold, when she became stupid; hot fever; wandering pains, particularly in the uterine region. When I was called, I first commenced by applying the Nerve Liniment freely over the whole surface of the body, three times in twenty-four hours, and gave her freely of the Diaphoretic Drops, which soon caused a free perspiration, and she became more sensible, when her friends thought her to be dying. She, however, soon became convalescent. The same course was repeated, which entirely cured her in a few days, and she is now in good health."

From Rev. B. R., Fayette county, Ohio, January 16, 1837.

FITS AND RHEUMATISM.—"After administering your remedies for nearly one year, in a great variety of cases of the most obstinate and unyielding nature, with unparalleled success, it is due to the public, and to suffering humanity, that I state some more rare cases, which have been successfully treated by me. The wife of Thomas Jones, of this county, had been afflicted for nearly three years with epileptic fits, occasioned by previous female complaints.

I applied your Nerve Liniment about the head, neck and the whole length of the spine, which relieved her in about two weeks. I will mention a case of rheumatism. Joseph Heaton had been afflicted more than two years with pains in the arms, legs, hips and joints generally, which became so severe about his thigh that it was drawn out of the socket. I made a full application of your Liniment for Rheumatism over his whole body, applying it more freely about the disjointed hip, and in less than two weeks his pains were removed, the tension of the muscles about the thigh became so relaxed that it returned to its socket, and at this time he is in perfect health."

From Dr. T. S. M., Athens, Georgia, January 16, 1837.

BRUISE, PILES, AND CONSTIPATION OF THE BOWELS.—The small amount of your remedies I have obtained has done wonders. A gentleman by the name of Wilson, in getting out of his wagon, fell and bruised his ankle very much. It became swollen to a great size. He used your Liniment three times, and it entirely relieved him. A Mr. Davis had had the piles for a number of years, with constipation of the bowels. I applied your Pile Salve; gave him your Diaphoretic Drops, and he is now willing to testify that he is in better health than he has been for years. I have met with equal success in fever cases, rheumatism, etc."

*From Rev. John Clark, College Farm, near Lawrenceburg, Ia.,
January 23, 1837.*

"Allow me, in the first place, thankfully to acknowledge the receipt of your medicines, a favor that has brought me under an obligation of which I am not insensible. They have answered, I think, fully equal to your own expectations, and far exceeded mine. I have not been afflicted with piles in the slightest degree, since a short time after I received the Salve. From several I have received thankful acknowledgments of the *instant* relief obtained from head-ache and rheumatic affections, by an application of the Liniment. In my own family they have been of great service."

From Dr. R. S. G., New-Castle, Henry county, Kentucky, January 25, 1837.

FEVER, COLIC, PLEURISY, ETC.—“I have applied your Liniments in fevers, colic, pleurisy, sore throat, pains in the joints, and head-ache, and found all that was necessary was but one or two rubbings, and if they ever fail, it is because they are not applied according to your directions. Your Cough Liniment is a most *invaluable* preparation. Some time since, I took cold from great exposure, which settled on my lungs. I applied this Liniment three nights by the fire, just before retiring to rest; and I am well. Your Diaphoretic Drops, Syrup, Pectoral Drops, Cerate, and Liniment for Rheumatism, I have found equally efficacious in the diseases for which they are intended.”

From Dr. N. Berry, Reedy Fork, S. C., February 1, 1837.

RHEUMATISM.—“Your remedies have far exceeded my most sanguine expectations. In a case of rheumatism, I have witnessed a cure where every other prescription failed. Sick head-ache, bowel complaints, pains in the back, sprains, etc., have been readily cured, much to the satisfaction of the patients and their friends.

CHRONIC COMPLAINTS.—“I was called a few days ago, to visit a lady thought to be dying, by the name of Michen. When I arrived, the family were in great distress, holding her up by the side of the bed, bathing her feet in warm water; she appeared to be in the last agonies of death. Her pulse had ceased to beat; her jaws were set, and of course she was speechless. I had with me four ounces of your Liniment, which I directed to be immediately applied. Six ladies commenced rubbing on the Liniment; two on her feet and legs, two on her hands and arms, one on her breast and jaws, and one on her back and between her shoulders. In twenty-five minutes she recovered and spoke, and assured us that at the commencement of applying the Liniment, her eyesight and hearing were nearly gone. I am happy to say she is still mending. Her disease has been chronic, of long standing.

It will be proper here to state, that as soon as she was able to swallow, I gave her your Diaphoretic Drops freely, and placed hot stones at her feet and sides. So far was nature sunk, that no perspiration could be raised for a long time; her flesh was cold; the blood had ceased in a measure to circulate. One of the ladies who administered to her relief, declared she felt during the time, as if she was attempting to restore the dead to life. She is now in the enjoyment of perfect health."

From Rev. R. McDaniel, M. D., Paris, Ill., February 3, 1837.

"I am happy to state, with regard to your remedies, and their curative qualities, that my acquaintance with them has been sufficient to enable me to bear decided and unequivocal testimony in favor of their excellency in affording prompt and permanent relief, when properly applied, in fever, scrofula, bowel complaint, pleurisy, head-ache, uterine hemorrhage, etc.; and as to the expense, which some interested individuals have attempted to make a *scare crow*, it certainly does not exceed that of prepared medicine generally, especially when all the important advantages are taken into account."

*From Dr. J. W. B. T., Perrytown, Harrison county, Va.,
February 24, 1837.*

PILES.—"About two years ago I was troubled very much with the piles, and was for a long time seeking for relief, but without success, until I obtained your Pile Salve, a few applications of which afforded me entire ease, and I was apparently free from the disease. No symptom of it appeared for four months, when I felt a slight attack. I again applied the Salve, one application of which entirely cured me, and I have not been troubled with it since. Out of the same bottle, I supplied a gentleman who had been afflicted with the same complaint for a great number of years. He was frequently unable to ride on horseback, or attend to business. He had but about one thimble full, which he used, and he now informs me that he is entirely well."

RHEUMATISM.—“My brother-in-law has been using your Liniment for Rheumatism. He had been afflicted very severely with that complaint, and by an application of the Liniment for two weeks, has effected an entire cure.”

*From Drs. Warren and Shelly, New Market, East Tennessee,
February, 12, 1837.*

“Your invaluable remedies have acquired a distinguished reputation, so far as the use of them extends. In relation to our own particular knowledge of their efficacy, we are proud to say, that we believe no account we have seen published in the Advertiser, surpasses its true merit. In no place have we applied the Liniments, where there was not more or less benefit derived therefrom. In some instances, where all other remedies failed, it has succeeded beyond our most sanguine expectations. Your Fever Liniment is truly astonishing in its effects. Please explain, in your next Advertiser, its principle of action, in so quickly regulating the pulse, and changing feverish excitement, in all febrile diseases.”

REMARK.—The above inquiry may be answered in the language of an eminent scientific physician, whose extensive practice with our Liniment for Fever, has elicited the following remarks : “Your Fever Liniment, being an extensive composition of highly concentrated therapeutical agents, containing stimulating, tonic, diaphoretic, cathartic, emetic, and nervine qualities, all of them so nicely balanced, that when the stimulants and diaphoretics cause a free perspiration, and extensive discharges of morbid matter, the tonics support the system, and the patient retains his usual strength through the operation. If the mucus membrane of the stomach be coated, the same remedy will readily remove this obstruction, causing it to pass off through the intestinal canal. If the stomach be bilious, a full application of the Liniment to the pit of the same, with warm cloths applied, will cause gentle vomiting, and the stomach is relieved. If the bowels have become constipated, and are inclined to inflammation, the stimulating and purgative qualities of the Liniment, give action to the bowels, causing free discharges from the same, and the patient is relieved without being subjected to a long state of convalescence.”

From Dr. A. D.

“A NEW MODE OF APPLYING YOUR HEAD-ACHE LINIMENT.—I have been attending a lady who has, for a number of years, been laboring under a complication of chronic complaints of the worst character, and among them was the sick head-ache. She became relieved of all her difficulties, excepting an occasional return, in a slight degree, of the head-ache. She applied the Liniment upon the *inside of the nose*, and though it was pungent and a little painful at first, she was entirely relieved in five minutes, and she has ever since been entirely free from the disease.”

From E. C. Keckeley, M. D., Charleston, S. C., Feb. 12, 1837.

“I used your Consumption Liniment in a case of spitting of blood, with a disposition to consumption. I used about one half an ounce with so much relief, that the patient, on leaving town, requested some to carry with him. In rheumatic complaints, your Liniments are superior to anything I ever tried. For pains of every description, they are excellent; I find no difficulty in speedily relieving them by your Liniments. I have used your Vegetable Cerate in a case of sore nipples, with complete success in a day or two. It is excellent for eruptions on the skin, ringworms, etc.”

From Dr. T. F. D., Adrian, Michigan, February 18, 1837.

BOWEL COMPLAINT.—“I have been in the use of your remedies for the last six months, with the most satisfactory results. I will mention one remarkable case of a child of two and a half years old, afflicted with the bowel complaint. This child was treated at first in the usual practice of calomel and astringents, without benefit, until the physician pronounced the case incurable. When I was called, I made use of such remedies as I have usually prescribed in such cases, for six days, when the physician who first attended her, gave an opinion that death would terminate the distressing scene in two or three days. Just at this time I obtained some of your Liniments. The first application produced a bene-

ficial effect, to the astonishment of all the friends, and by a continuation of the same remedy a few weeks, the child was perfectly cured."

REMARK.—Had Dr. D. been in possession of our Liniment for *cholera morbus*, and applied it according to directions, the relief would have been much more ready. We have never known a case where an entire cure was not effected in one or two days, if this Liniment had been freely applied.

From Mr. A. Stockbarger, Licking county, Ohio, January, 1837.

PILES CURED.—“I have been afflicted with the piles for twelve months severely every day, from which I have been relieved by Jewett’s Pile Salve. I never had a return of the complaint after the first application.”

From Caleb Brooks, Esq., Licking county, February, 1837.

PLEURISY.—“My wife was attacked about the 12th of this month with a pleuritic affection very severely, pains in the shoulders, etc. She was in the most distressed condition imaginable. Jewett’s Stimulating Liniment was applied to her side and shoulders freely, accompanied with the use of the Diaphoretic Drops, and in one hour she was relieved from the complaint; no other remedies were made use of.”

From Major Alexander M. Allen, of Jefferson county. Geo.

CASES OF ASTHMA, COUGH AND FEVER.—“I have used Jewett’s Stimulating Liniment for the asthma and a severe cough, and have found them to produce very great relief, being more prompt and efficacious than any remedies I have before used, having speedily caused a complete cessation of the diseases. I have witnessed the beneficial effects of Jewett’s Fever Liniment in relieving my daughter from an intermittent fever of long standing, and restoring

her to a greater degree of health and strength than she has enjoyed in some months.

Feb. 25, 1837."

From Mr. Jeremiah Vinson, of Burke county, Virginia.

CASE OF FEVER AND AGUE, AND PLEURISY.—“In December last, I was taken with a severe ague, pain in the breast, and cough, with a high fever, which continued, but moderated just before the period of the chill, which occurred every day.

“I was in this situation one week, the whole of the symptoms becoming more severe and distressing, when I made use of Jewett's Liniment for Fever, according to the directions, which produced a profuse perspiration, and continued so for some hours, which relieved all the symptoms, mitigated the cough, entirely removed the pain in the breast, and completely overcame the fever, which never returned; a continued use of the Liniment for several days entirely removed the remaining cough, and restored me to entire health, which I continue to enjoy.

February 23, 1837.”

From Dr. Thomas M. Henley, Walkertown, Virginia, January, 1837.

“I had, during the last fall, about eighty patients, with different diseases, in which cases I used your Liniments, accompanied with internal stimulating medicine. Out of this number I lost but two small children, neither of whom were treated with your remedies. I was at once enabled to arrest the fever with these agents. I can with confidence say, your remedies are harmless in their operation, relieving pains of all kinds at once, and they produce a pleasant operation when properly applied.”

From Dr. S. P. Pool, Mecklenburg county, Virginia, February 16, 1837.

“I have procured and used a small quantity of your medical preparations, and every person who has tested them, is highly

pleased with the effects produced by them. My wife, who was on the verge of the grave with a liver complaint, has been relieved by them."

From Dr. John Steele, Frankford, Missouri, February 26, 1837.

"Had I room I could give many names that would give certificates to the good effects of using your remedies; but it is enough, or ought to be enough, for the people to know that wherever your remedies are used, the demand becomes great."

From J. J. Moorman, Esq., Highland county, Ohio, February 16, 1837.

TUMORS, BRONCHOCELE.—"I have been using your Liniments in my family for more than a year, and have uniformly received the most decided advantage therefrom. My wife had lumps on her eye-lids, which were pronounced by the physicians as incurable by any other method than being cut out. I applied your Liniments to these tumors for three weeks, which removed them entirely. Before she made the application, it was with difficulty she could open her eyes. My mother has been afflicted with a bronchocele for ten years; neck much enlarged. She applied your Stimulating Liniment for a considerable length of time, which has reduced the enlargement, and she is now perfectly relieved from the complaint."

From the Rev. Wm. Dale, Alexandria, Tennessee, March 6, 1837.

CROUP.—"I received a small portion of your Stimulating Liniment from a friend. My daughter's youngest son, a fine, fleshy, child about a year old, was taken ill with croup, and, her husband being from home, she became very much alarmed, and came with all haste, with her son, to my house, expecting he would die on the way. I directed her to bathe his feet in warm water, and I then applied the Liniment to the bottoms of his feet, and to his

throat and stomach, which produced a considerable perspiration; and the happy result was, he obtained immediate relief. The next day, on returning home, the child took cold, and the croup returned very bad. She made a similar application, and the like happy results followed. Another daughter of mine was taken with the cholera morbus, which produced a severe pain across the abdomen, and cramped her dreadfully. She got no relief until I directed an application of the Liniment to the affected part. Immediate relief was obtained. A son, from Florida, lately returned from the Seminole war, had a very bad pain in the left side of his breast; only *two* light applications removed it entirely. And I have found relief, myself, from the dreadful pain in my head."

From Joseph Nollner, M. D., and L. P. Portlock, Norfolk, Virginia, March 9, 1837.

"Having frequently used your Liniments, etc., and clearly tested their medicinal virtues in curing head-ache, back-ache, colic, fevers, hip-joint affections, rheumatism, cuts, bruises, etc., we do not hesitate to recommend them to the afflicted as safe remedies."

From Dr. Thomas Nash, Norfolk, Va., March 9, 1837.'

"I dare say nought against your medical remedies which have so often proved highly valuable and worthy of the character which they bear, whenever they have been faithfully and properly applied. I should do you great injustice were I to withhold my testimony in favor of your preparations for external use."

From James B. McCord, M. D., Richmond, Ray county, Mo., March, 1837.

BILIOUS SPASMODIC COLIC.—"Among the many cures which have been favorably effected with your remedies, I wish to state one of bilious spasmodic colic which took place under my own observation. A young man was attacked with pains and cramps,

in his bowels, of the most extraordinary nature. He remained in this situation from Monday until Wednesday, when an application of your Liniment was made to his bowels, and one potion of Diaphoretic Drops were exhibited, which gave relief quickly, and the next day he was in sound health, though much weakened; no other medicine was made use of."

From Mr. William Moore, of Burke county, April 4, 1837.

CASE OF FEVER, LIVER AFFECTION, AND PLEURISY.—"I have been in bad health for several years past, particularly by periodical attacks of fever and ague in the fall seasons, which left a seated affection of the liver and enlargement of the spleen. I was attacked, in January last, with chill and fever, attended with a violent cough and severe pain in the breast. I made application of Jewett's Liniment for fever, which entirely relieved the chill and fever, removed the pain in the breast, and eased the cough, both of which occasionally returned; but a continued use of the Liniment for about one week performed an entire cure of those symptoms, and restored me to ordinary health; a further use of Jewett's Stimulating Liniment has reduced the spleen, and caused me to be in the present enjoyment of better health than for a long time previous."

From Dr. E. E., Factory Point, Vt., April 4, 1837.

MENTAL DERANGEMENT, ETC.—"The credit of your medicine is established here. One of the first cases in which I tried them was a young man in an awful state of mental derangement. He had been in this way for three months—became greatly emaciated, and refused to take any medicine. I recommended the application of your Liniment, which was made with much difficulty, however, and, in three weeks, his mind was as rational as ever. Soon after, sore eruptions took place about his head, and were, in a short time, cured. Another case was a young man who had been confined with scrofulous swellings for five years, who, by the use of

six ounces of your Liniment, was much relieved, and is now evidently getting well."

From Dr. J. Steele, Frankford, Mo., May 4, 1837.

"I will give you a case of fits cured by your Liniment and Diaphoretic Drops. A child of two years had, in twenty-four hours, eleven fits of the worst kind: they were convulsive. The family had, just before the attack, read your Advertiser for the first time. After the child had suffered a day and a night, I was sent for. I found the child then under the paroxysms of the eleventh fit, and I really believed it to be its last. By a faithful application of your remedies, the child had no more fits, and in two days it was well. Two weeks have elapsed since, without return of the fits."

From Rev. William Dale, Alexandria, Tenn., October 19, 1837.

"Previous to my leaving home, the latter part of August, on a preaching tour of twenty-two days, I made an application of your Rheumatic Liniment on the spine, hips, and knees, beginning at the neck and so on downwards, applying it with friction and heat. It produced a powerful effect on the kidneys, and I think will relieve the diabetes, which I have been troubled with for years. It loosened the joints of the small of my back, which had been entirely stiff for years, and I can now bend either backwards or forwards; also my knees, which had been as fast and immovable as if clenched, became loosened. When sitting in a position to swing my feet, I can use them as far as they go, nearly as well as I ever could; though my hips are not yet better, my head is much relieved. I certainly have gathered considerable strength. I was from home, as above stated, twenty-two days, during which time I traveled more or less every day. I preached ten times in eight days, which is more labor than I ever performed in the same length of time. If I could stay at home a while, attend strictly and closely to your prescriptions, I doubt not I should receive much more benefit.

"My wife's sister was taken with a pain in her left jaw, which

swelled dreadfully, to obtain relief from which, she tried every thing she could think of, and every thing her physicians prescribed; but, instead of getting better, it got worse. She felt fearful of applying your Liniment, notwithstanding our advice to that effect. At last she became alarmed; the swelling was suppurating, and it was too late to apply any thing to disperse it; and, as a last resort, she applied your Liniment. The first night, she found ease and rested well, which prompted her to persevere, and, astonishing to relate, the pain first gave way, then the swelling subsided, and she is now entirely well. She says 'It was almost a miracle.'

"The Head-ache Liniment is highly esteemed by all who have used it."

From Dr. John Hilton, Portland, Maine, October 23, 1837.

"After I wrote you in July, I was unable to go from home a number of weeks from a severe kidney complaint; but, through a faithful application of your Liniment and other medicines, my health is better than for years. My success in practice has been remarkable. Fevers have generally been arrested with one application of the Liniment, and the patient at work the third day. In some cases, they have walked about in six hours. In all diseases, the relief granted has been proportioned to the degree of perseverance. I had an interesting case immediately after my arrival here: a child of Elder Wilson, four years old, had been sick, for a week, with fever and inflammation of the bowels; had taken four full and one partial course of medicine; but grew worse. Your Liniment was then applied, and relief granted in six or eight hours; then, by throwing off the clothes, the child took cold and relapsed. The fever was more violent, and the bowels worse inflamed; but, by a renewed use of the Liniment, was relieved again in two days, and was soon running about."

From Dr. Richard Cherry, East Monroe, O., October 29, 1837.

"I will not be without your medicine, if I can raise the means to obtain it. It is the best remedy that I have ever tried for every

complaint incident to the human race ; more particularly for fever and ague, which I have effectually proved."

From Dr. A. Edwards, West Carlisle, O., November 17, 1837.

"Were it necessary, I could give more marked cases than would fill your Advertiser ; but let one suffice. I was lately called to a lady, sixteen miles from this place, afflicted with fever of the congestive type. She had been faithfully attended by a physician near two weeks ; the second one was called in consultation, and, finally, I was sent for. I immediately went, and found her delirious, the fever raging fearfully, with great prostration of the living power ; no appetite for food, but raging thirst, and such a degree of irritation in the stomach that every thing taken into it was immediately thrown off ; constipation of the bowels, great restlessness, and a constant picking at the bed clothes ; pulse intermittent.

"I applied the Liniments for Fever, Nerves, and the Stimulating, according to circumstances, until I had four ounces absorbed into the system, with plasters on the stomach, bottoms of the feet, and back, and administered an injection impregnated with Diaphoretic Drops, which caused a reaction in about two hours, and produced a copious perspiration which had not been effected before. The result was, she was restored to her reason, the fever gave way, appetite for food returned, with a fair prospect of entire recovery."

From the same, December 30.

"A Mr. Daniel Harvey, of this county, was afflicted with a very alarming disease of the urinary organs, bloody and painful discharge of urine, distention of the abdomen, with a callous-like feeling, liver complaint, piles, and general prostration,—so much so as to be unable to help himself,—attended with frequent paroxysms of excruciating pain ; which diseases, in part or whole, had been his constant companions for many by-gone years. In this situation, I was called to see him ; and by a constant and unremit-

ting application of your medicines, the distention gave way, the pain ceased, sleep was restored, appetite better, the urinary organs so revived that he commenced passing large quantities of hard substances of a dark-red color, varying from the size of a peppercorn, larger and smaller, which gave him relief. At first they were discharged frequently, and in large quantities; latterly more seldom, and in less quantities, with less pain and difficulty. I suppose he has discharged one hundred, as I have in my possession nearly fifty pieces. When I visited him last, he was able to sleep, rest, and eat, dress himself, walk about, and direct his business, with a fair prospect of getting entirely well."

From Dr. J. B. McCord, Liberty, Clay county, Mo., November 21, 1837.

"I have just returned from a visit to Lafayette, a distance of forty miles, where I was called to see a lady afflicted with liver complaint and inflammation of the bladder, attended with a severe stricture of the urethra. Three physicians attended her, without being able to afford relief. I directed a free use of your Stimulating Liniment, and some Diaphoretic Drops, which reduced the inflammation, removed the stricture, and enabled the patient to enjoy refreshing sleep."

From J. Hilton, Portland, Maine, January 8, 1838.

"A lady completely emaciated, unable to do any work, commenced the use of the Liniment. The morning after the first application, she was enabled to do part of the work of her family; and now (five weeks) she does all her work, and has received her natural strength. One case of tic douloureux was relieved by two applications. Many cases of fever have been removed by one application. Several cases of pain have been relieved while in the act of applying the Liniment. Hooping-cough has been relieved immediately, though very bad cases. Rheumatism has been cured permanently."

From Samuel H. Saunders, London, Ohio, Jan. 6, 1838.

MILK-SICKNESS.—"It is a duty I owe the public, to certify the cures that have been effected by your invaluable medicines in my family. Your Liniment had a very happy effect upon my daughter, in a case of pleurisy. I left with her a portion for a renewed application; but the first having completely restored her, it was deemed unnecessary.

While on my way home I partook of some cream, and two days after my arrival, I was attacked with milk-sickness. My physician administered a cathartic, and checked the disease; but for eight or ten weeks my legs were pained with the effect of the poison, when I determined to make use of your Liniment. I rubbed it on my limbs twice, on successive evenings, but was prevented from making a third application by incidental circumstances; and before the fourth evening came round, I found myself so relieved from the pain and leaden weight of my limbs, that I forbore to renew the use of the Liniment for the time being: and to this day, I was effectually relieved, and therefore can with confidence recommend its use for removing the effects of milk-sickness."

From Dr. T. Powell, Burlington, Vt., Jan. 17, 1838.

"In relation to your remedies, I must say, that so far as I have become acquainted with their use, they are undoubtedly calculated for the cure of many diseases."

From Rev. E. McDaniel, M. D., Beardstown, Illinois, January 1, 1838.

"Every useful and honorable consideration impels me to exert myself for the dissemination of your remedies."

From E. Wilkinson, East Bethany, N. Y., Jan. 5, 1838.

"I have of late been most of the time confined to my room: I have

found more relief from your medicine, than any other I have made use of. I have cured one case of rheumatism in my family of six years' standing, with your Liniment.

"A sister of mine was thrown from a horse, some ten years ago, her head coming in contact with a stone, which fractured her skull. She has had much burning and giddiness in her head, with great irritation of the nerves. The use of your Liniment has, we think, nearly or quite effected a cure. She has not had any of these symptoms since its use. I think much of your preparations—I hold them in high estimation, believing them to be a safeguard from disease, for a family."

From Josiah F. Danforth, Walnut Forest, Mo., Jan. 15, 1838.

HEAD-ACHE.—"Dr. Walker, of Pulaski county, purchased of me a vial of your Head-ache Liniment, for his wife, who was very distressingly afflicted with head-ache. The doctor says that she would lay for hours completely prostrated, with apparently no hopes of life. He applied it, and administered some of the Pectoral Drops, which have effected a radical cure."

From B. G. Key, Portersville, Miss., Sept. 9, 1837.

"I could give you a detail of a good many cases that have received signal benefit by your remedies, but let two suffice.

"1st, Miss Stanly, who had been laboring for the last ten years under a complication of diseases, viz: inflammation of the liver, lungs, and enlargement of the spleen. Her physicians declared that she could survive but a short time, after which she became suddenly worse. When I was called to see her, she was truly in a critical situation. I prescribed the Fever Liniment, Pectoral Tincture, and Diaphoretic Drops, which subdued the inflammation; then made use of the Stimulating and Consumption Liniments, and Vegetable Syrup; which course persevered in, raised her from a bed of affliction to attention to her domestic concerns. She now enjoys good health.

"2d. A negro boy of a Mr. Stamply, was in a consumption.

The rest of his family died about the age of twelve years, of the same complaint, and this boy appeared to be declining as fast as did the rest of the family; and knowing that it was useless to make use of the means which he had heretofore done, I was called, though without any expectation, on the part of Mr. S., of deriving benefit; but after a partial use of the medicines, he found that the boy began to revive, which encouraged him to persevere. He is now lively and active, has regained his flesh, and is entirely cured of the complaint."

From Rev. E. McDaniel, M. D., Cass county, Illinois, Sept. 25, 1837.

"Last month I procured from my brother, near Paris, a small quantity of your medical preparations. I had been troubled, for about two weeks, with a diarrhea; and while attending a camp-meeting at Grandview, it grew worse. I used one thimble-full of your Liniment, and soon obtained relief. I next ordered it used in a case of bloody flux, and it effected a good end; I next ordered it used twice in case of chills and fever, and a cure was effected: next day my own child was affected with diarrhea, which I cured by one application."

From Dr. A. C. Jewett, Daviess county, Ky., Sept. 25, 1837.

"Many are embracing your remedies, and using them with marked success. A number of cases of bilious, inflammatory, and intermittent fever, of our climate, have come under my care, which have been arrested with precision and certainty. The Liniment for Head-ache has established itself beyond any other article—it never has failed, in any instance, of giving relief."

From C. Barnes, Weymouth, Ohio, March 15, 1837.

RHEUMATISM—CONSUMPTION.—"More than five years ago I was attacked with inflammatory rheumatism of the severest kind,

in my feet and knees, which kept me in constant pain, day and night, for three months; deprived me of sleep, except while under the influence of opium, and rendered me so completely helpless, that I was unable to turn myself in bed without assistance. My appearance, after this prostration, was almost that of a living skeleton. The inflammation then began to subside. In March, I could, by the aid of crutches, and one assistant, walk about my room. I gained strength gradually, until July, when I was able to walk without crutches; but still the disease did not leave me. Though the inflammation was gone, the joints were stiff; the muscles contracted, and the toes drawn out of joint, particularly on one foot, which was entirely useless. My physicians gave me no further encouragement, and, with much candor, told me that nothing more could be done for me, and that I would probably remain a cripple. I was, however, determined to seek relief. I resorted to the Welsh Medicamentum—the Thompsonian remedies—Morrison's Hygeian Pills—E. Dean's Chemical Plaster,—and, finally, the famous Kitterage Ointment; all these modes and medicines, were, in succession, *long and faithfully persevered in*, each, from *three months to a year*.

“Some of them seemed to give partial relief at first; but a return of my complaints, with still greater force, indicated that their only effect was, to aid the disease in undermining the remnant of constitution still remaining to me. Hope was gone, when your Register, containing the words, so encouraging to the afflicted, of “No Cure, No Pay,” accidentally fell into my hands. My hopes revived, and I determined on visiting you forthwith; but suddenly I was attacked with a bilious fever, and then, by fever and ague, which confined me eight weeks; gave a terrible shock to my system, and left me with a severe cough. In a short time, profuse evacuations of blood from the lungs took place, attended with other symptoms, evidently of a pulmonary affection. My rheumatic complaints were severe as ever; and when I arrived in Columbus in November last, I was thought, by all who saw me, to be on the very brink of the grave.

“By *ten days* use of your medicines for cough, consumption and rheumatism, I became so much relieved, that my cough had almost left me; my appetite was good, and I was otherwise so

much improved, that, instead of remaining with you nine months or a year, as I had contemplated, I left for home.

“I have made constant use of the medicines, and I now feel, almost, like a perfectly well man. My *cough is gone*; I am *gaining flesh and strength*; the *swelling and stiffness* in my limbs *are gone*; my appetite remains good, and my system is regular *in all respects*.”

REMARK.—A few days since we received a letter from the writer, of the above article. The state of convalescence he speaks of continued without interruption, and he is, at this time, July 1838, and has been long since, without further occasion for medicine, and is in the enjoyment of good health.

RHEUMATISM.—“Nearly two years ago I was severely attacked with rheumatic pains in my back, limbs, feet and hands; my distress was so great that my limbs became nearly useless, and the distress followed me, without intermission, for a long time. At length it became periodical, and so continued until sometime in September last I made application of Jewett’s Liniment for Rheumatism, accompanied with his Diaphoretic Drops, which afforded relief in a short time, and I was perfectly cured of the complaint in one week, and so remain at this time. Once, since being cured as above stated, I experienced a slight attack, which was immediately relieved by applying the Liniment. I consider this cure more extraordinary, on account of my age, which is sixty-four years.

MARY STERRET.”

REMARK.—The signer of the above certificate is the lady of Col. Sterret of this city, who is one of the oldest and most respectable inhabitants of the State.

*From James B. M’Cord, M. D., Elkhorn, Ray county, Mo.,
September 6, 1837.*

INFLAMMATORY RHEUMATISM.—“I was called to see Mrs. Hardley, laboring under bilious inflammatory rheumatism. She was

much reduced, the pain appeared to be mostly confined to the wrist and hand, which were much swelled and inflamed, and the pain was very acute. She had exhausted the skill of her physician in vain. I gave her Diaphoretic Drops, and applied the Rheumatic Liniment, her pain ceased, she rested and slept comfortably at night, and in four days was up and about her house."

INFLAMMATORY RHEUMATISM.—Six months ago, I was attacked severely with the inflammatory rheumatism. On the commencement of the attack, I was swollen in my arms, knees, ankles, and legs, attended with the most excruciating pain, and so prostrate that I could not be removed from my bed, without the assistance of two persons. By the remedies I applied, I gained some temporary relief, but no cure. Nearly two months after, I applied to Col. Jewett for his remedies for rheumatism, which, in the course of a week, gave me temporary relief. I continued the use of the Rheumatic Liniment, Vegetable Syrup, and Diaphoretic Drops, accompanied with a saline bath, for about two months, when I became entirely restored to health. There still remained some stiffness in my limbs, which has been relieved by an occasional use of the Liniment. I have been subject to this complaint from early life, and seldom obtained any mitigation in a less time than six months, and generally longer.

THOMAS F. JONES.

Columbus, February 8, 1837.

From James B. M'Cord, M. D., Ray co., Mo., July 10, 1837.

BILIOUS INFLAMMATORY RHEUMATISM, CHRONIC COMPLAINTS.—
 "I feel with many others, free to bear testimony to the efficacy of your invaluable medical preparations. Since I received my last supply I have been thronged with business from all directions. A severe case of bilious inflammatory rheumatism has recently come under my treatment; in fact, so prostrated was the patient, that both physician and friends had entirely despaired of his recovery; and he assured me, that to see his house crowded with

his friends, to see him breathe his last, filled his mind with despair. At this critical period I arrived; placed bricks to the fire to heat—gave him your Diaphoretic Drops freely, and applied your Liniment for Rheumatism over his whole body, and placed the warm bricks around him. This treatment soon caused a profuse perspiration; pains gradually subsided, and a continuation of this treatment for a few days, restored him to such a state of health, that he was enabled to start on a journey to Alabama.

“A great number of chronic complaints, such as consumption, liver complaint, scrofula, etc., have been cured by your remedies, and many recent diseases have been almost instantaneously relieved. These are stubborn facts, and I will not withhold my testimony, believing it the duty of every good man to do what lies in his power, to promulgate a knowledge of the best means of relieving the sufferings of human nature.”

PARALYSIS.—Col. Jewett: I hasten to perform a duty I owe to you, in stating the results of my experience in the use of your medical preparations. As it respects my general health, it is much improved, which I ascribe to your Vegetable Syrup and Liniment. I experience little or no pain; there remains a slight constriction of the muscles, which I have no doubt would have been entirely removed, if I had followed your prescriptions to the letter. In more than a dozen cases, your Rheumatic Liniment has granted relief. In one case of twelve years' standing, and another of a child who had lost the use of its limbs. I have felt richly rewarded for all the trouble I have had in promulgating a knowledge of your remedies, by the blessings they have dispensed to the afflicted around me.

C. BURNSIDE.

Gambier, February 12, 1838.

From J. E. Todd, Esq. Carlowville, Alabama, June 26, 1837.

“In my own family, I have generally found your remedies to answer well, the purposes for which they are intended. A physician near me, has been in the use of your Liniments for the last

eight months; he speaks in the most flattering terms of their respective merits."

From Hugh Quinn, M. D., Missionary Station, Ga., June 16, 1837.

SUNDRY SEVERE CASES CURED.—“I had made up my mind not to use any of your highly recommended remedies, until I saw the recommendations of two highly respectable gentlemen, which induced me to seek and obtain a four ounce bottle of your Stimulating Liniment. I began to use it on myself, and applied it to an old wound in my hand, from an injured cartilage, which rendered the middle of the fore finger useless and painful. It acted like a charm, one application removed the whole disease, and it has not returned since, though five months ago. My success in this case, prompted me to make trial on a valuable servant, who had, for a long time, been afflicted with a chronic pain in the side, which had baffled all medical aid which had been resorted to, which very shortly gave permanent relief. I have cured another of my servants of a chronic erysipelas, with the same Liniment. Shortly after, I had occasion to put your Liniment to a severe test on myself, by a fall across the edge of a ferry-boat. I broke the side of my breast-bone, and every rib from that down, and injured the right lobe of my lungs; being more than fifty years of age, I anticipated the most disastrous termination. I did not stand still, ‘shivering on the brink of death,’ but began by using some internal stimulating medicine and balsam of fir, and your Liniment externally. I soon became convalescent, and am now entirely restored to health and strength. Besides this, I have, in several cases, removed the pains so common in chronic hepatitis, and with the addition of my pills for that disease, have performed two radical cures. I have cured two cases of rheumatism, and several other local pains; and all this with one bottle of Jewett’s Liniment. I have thought, sir, it was due to you and the public, that I should acknowledge the great benefit that myself and others have derived from one bottle; and I do not hesitate to say, that if properly and perseveringly used, incalculable benefit may be derived to the human family, by its use. I have lately received an

additional quantity of the Liniment, since which, I have cured a bad case of croup, by the use of it alone."

From Jonathan Morris, M. D., Whitely, Pennsylvania, July 8, 1837.

"I have found your preparations advantageous in cases of scarlet fever, colics, rheumatism, head-ache, etc., etc."

HEAD-ACHE.—Col. M. Jewett: Dear sir—I take pleasure in communicating the following, as the surprising effects of your Head-ache Liniment. I had a slight attack of the head-ache, a few evenings since, from which I was relieved by the application of a very small portion of your Liniment to my forehead, in a few minutes. I called this day to see a female friend, who was suffering much from head-ache, which she first felt on rising early. I informed her I had derived benefit from the use of your Liniment. After an hour's conversation, she consented to apply it according to the direction, which relieved her entirely in about five minutes. She was much surprised at its hasty and happy effects, and expressed a wish to have some of this preparation always at hand, and inquired where she might procure it. I gave her a part of what I had, promising to furnish her more as soon as I could procure it. I think you would do well to deposit a quantity of your preparations in this city, for they will certainly be used as soon as known.

Very respectfully,

R. J. POWELL, M. D.

Washington, January 18, 1837.

From Mary Read, Jefferson, Ohio, February 12, 1838.

"Having received incalculable benefit from the use of your medical preparations, in afflictions on my own person, when every other remedy I could procure had totally failed of giving relief;

and feeling it a duty, so far as in my power, to dispense the blessing they afford to the afflicted, I have taken the liberty of narrating the surprising effects of your remedies in a case which came under my own observation. It is as follows :—A gentleman, aged sixty-six years, had been afflicted with an erysipelas, more or less, from his youth ; and for the last seven years, his whole body had become measurably covered with corroding ulcers ; such was his affliction, that he assured me he could seldom, if ever, obtain any sound sleep ; and many times so tender were the sores, that even the bed-clothes could not be borne. He had applied to the most skillful physicians, and continued their prescriptions from year to year, without any mitigation of his excruciating sufferings, and he had despaired of obtaining relief from any other source, than the releasement from suffering and pain that is afforded to the afflicted by the cold embrace of death. It was in this critical situation that one of your Advertisers came under his notice, which induced him to apply to me for your remedies ; and, surprising as is the fact, by the exhibition of your Vegetable Syrup, Pectoral and Diaphoretic Drops internally, and your Stimulating Liniment on the sound portions of his body, and your Vegetable Cerate on the ulcers, for the term of about three weeks, his ulcers became healed, his general health restored, and he is at this time perfectly relieved from all the diseases with which he had been so long afflicted.”



*From the Rev. A. Edwards, West Carlisle, Coshocton county,
Ohio, June 17, 1837.*

CONSUMPTION.—“I have two cases of consumption which are in a hopeful state of convalescence. Had it not been for the unparalleled success I have had with your agents, I should not have attempted these given over cases ; but strange as is the fact, I have lost but one patient since I adopted your remedies, nearly two years ago, and that I pronounced hopeless at first sight. It is with heartfelt pleasure I see your system of curing diseases, constantly marching forward with a steady but unerring step ; and so it will continue to proceed, until a knowledge of your remedies shall be co-extensive with this wide-spread empire.”

From Abraham Halstead, Esq., Williamsport, Ohio, June 20, 1837.

“I have full demonstration of the great value of your Liniment. One case of a boy, who has recently been raised from an untimely grave by them. I say so, because all other remedies failed, and by the application of your remedies, he soon recovered.”

From the Rev. E. E. Parrish, Morgan county, Ohio, June 1, 1837.

TETTERS.—“What I have seen published of your remedies, I have found, by their application, to be true. Permit me to mention one case, of which I do not recollect of having read one similar in your paper. A gentleman called on me for something to cure a tetter on his wife’s hand. I gave him twenty-five cents worth of your Tetter Salve, which was applied; and the result was, that it effected an entire cure. Her hand had been very bad, so much so, that she could not attend to the common avocations of her house. I have since called on her, and find the hand still well. I have seen great benefit from your fever remedies among children.”

From Van V. Reeves, Esq., Hardin county, Ohio, July 17, 1837.

SICK HEAD-ACHE.—“When traveling through Columbus, in April last, I called at your store to procure some Head-ache Liniment for my wife, who has been afflicted with the sick head-ache from her childhood. The next day after our arrival at this place, she was severely attacked. She applied your Liniment as directed, and she got relief on the first application. She had no more for six weeks, when a slight attack occurred, which was instantly relieved by an application of the Liniment. I consider this cure the more extraordinary, as she has frequently been confined for a week at a time. I send this communication for no other purpose than bearing my testimony to the unequalled virtue of this remedy.”

From Solomon Allen, Snow Camp, North Carolina, 6th month 27, 1837.

“Thy medicine only need be known, to be appreciated by the whole community. I have cured some chronic complaints, after all other means had failed. Some wonders have been performed by thy medicine. A girl of thirteen years old was suddenly attacked with a difficulty of breathing, and continued on her continually, only when she slept. She had paroxysms three or four times a day, which indicated sudden dissolution ; and at the most easy times, she would constantly throw herself into different attitudes at every breath. Some of the symptoms were those similar to the diseases of the heart. The most able physicians afforded her no relief. Some weeks after I was sent for, and applied thy Liniments, with some internal medicine, and she was directly relieved, and has not had a paroxysm since.”

From John Turner, Fountain Springs, Tennessee, June 5, 1837.

“I have used your Liniments and other remedies in my practice, for two years, and I find them indispensable to full success. For in no one instance, during that period, have I lost a patient, when your preparations were administered. During the above period, I have successfully treated cases of consumption, rheumatism, colic, female diseases of every type, dyspepsia, liver complaints, pleurisy, congestive fevers, bilious and typhus fevers, some of which, to all appearance, were near the agonies of death, before I saw them, and I have been uniformly successful. In one of the most severe cases, I found it necessary to keep the patient in a profuse perspiration with your remedies for four days, through which means the disease was conquered, and the patient recovered.”

From B. G. Key, Portersville, Mississippi, August 6, 1837.

“A lady, who has been under my treatment with your remedies, has nearly recovered of a confirmed consumption ; and another has been cured of an enlarged spleen, inflammation of the liver and lungs, bordering on consumption.”

From J. Hilton, Deerfield, N. H., July 7, 1837.

“Your medicines equal all that has been said of them in your Advertiser. I know of a case of sick head-ache, of more than twenty years’ standing, that was cured by your Head-ache Lini-ment in a very few minutes. Never before had the patient found any remedy that would afford relief. Had I leisure, I would enumerate many remarkable cures.”

CASE OF CONSUMPTION AND FLUOR ALBUS.—C. D., a lady of much respectability, had been afflicted with the above complaints for nearly seven years ; pain in the left side and shoulder blades ; severe cough, expectorated daily large quantities of pus streaked with blood ; head-ache ; nerves much affected ; bowels irregular ; swelled ankles ; and continually distressed with wandering pains. After applying a variety of remedies without gaining any permanent benefit, she applied to us for medicine about four months ago, and, at this time, she appears to be entirely relieved of all her complaints ; in less than three months, her cough was cured—her system, generally, has become regular. We consider this case more extraordinary from the fact that it has required much less medicine to effect a cure than in cases generally where the patients have been similarly afflicted. We have noticed this, and the preceding cases, among a vast number which we have knowledge of, for no other purpose than to turn the attention of those similarly afflicted to the means for relief, which have uniformly been successful where a persevering treatment has been pursued. It is with much difficulty we can present to the public a full statement of these delicate cases of affliction, and the vast number of ladies, of the first respectability, who have been relieved by our remedies, and have promulgated the fact among their neighbors.

*From Rev. A. Edwards, West Carlisle, Coshocton county, Ohio,
February 23, 1838.*

FITS.—“I have recently cured a case of fits, with your remedies,

in a case of a child four weeks old. When I first visited the child, it was struggling in a severe paroxysm, to all appearance, in the agonies of death; I applied the Nerve Liniment to the stomach, abdomen, spine, and bottoms of the feet; gave the pectoral tincture once in fifteen or twenty minutes, according to the symptoms, and, in a few hours, the child was entirely relieved, and continues so at this time."

REMARK.—In cases of fits, we would recommend the child to be immersed in warm water at first, wipe dry, and then apply the remedies as above mentioned.

From the same, March 16.

TIC DOULOUREUX.—"I was recently called to visit a young gentleman laboring under a neuralgic affection, and general prostration; had been treated, in the usual method, by some of the most skillful physicians, for several weeks, without relief—all hopes of recovery were given up by his medical attendants and friends. At this inauspicious period, I was called; I ordered your Nerve Liniment applied liberally with warmth and friction, the Diaphoretic Drops taken with a cathartic. The result of this course was, that his pains soon subsiding, a state of convalescence ensued; and, by a few applications of the Liniment, he was restored to entire health in a few days, and now remains a living witness of the efficacy of your invaluable remedies to this day.

DYSPEPSIA AND LIVER COMPLAINT.—"I was called to visit a lady, near Gambier, who had been laboring under the dyspepsia and liver complaint for more than a year; a short time before, she had been delivered of three children at one birth, which caused a local uterine imbecility, with deranged menstruation and general debility. I prescribed for her, and, by a prompt and constant application of your remedies for a few weeks, she was relieved from all her complaints to the astonishment of all who saw her.

DYSPEPSIA.—"David Morris, of this county, had been laboring under the dyspepsia, for a number of years, in its worst and most distressing forms; he had despaired of ever gaining relief, as all

the means he had resorted to had entirely failed. A ray of hope beamed on his countenance after my first application of your remedies. I furnished him with your remedies usually applied in such cases, and, in five or six weeks, his bowels became regular, his food set well on his stomach, his strength was restored, and he assured me that he was able to perform as much labor as when he was a young man in sound health. He is a grateful living monument of the efficacy of your remedies in dyspepsia, and he proclaims abroad that almost a miracle has been wrought upon him. He has been the means of directing five or six similar cases to me, who have all found relief by applying the same means.

TERTIAN AGUE, DISTENTION OF THE SPLEEN, ETC.—"George Lydeck, near West Bedford, in this county, had, for a long time, been afflicted with the tertian ague, chronic derangement of the digestive apparatus and bowels, distention of the spleen, and general debility, was mostly confined to his bed for fourteen weeks; he had been attended by two of the best physicians, but of no avail. I was called, and commenced the exhibition of your Diaphoretic and Alterative Drops, applying the Liniment and my cathartic pills. This course at once gave relief, and, by a few weeks' application, he has been restored to entire health.

SEVERE CONTUSION OF THE HAND.—"A young man, near Warsaw, had three of his fore-fingers torn nearly off in a threshing machine—bones fractured. When I was first called, his hand had been dressed by a physician; but he remained with much pain. I took off the splints and bandage, and found the wound approaching to mortification. I was compelled to amputate one of his fingers. I then washed the wound with the Diaphoretic Drops, and bound it up with the Vegetable Cerate. This course arrested the mortification, and, in a few days, entirely cured the wound.

"Thus I have given you a few out of a vast number of cases which have come under my treatment with your remedies. I have no other object than to disseminate a knowledge of the fact that your remedies actually reach the worst forms of disease with more readiness, more certainty, and with less expense, than any other within my knowledge.

From Dr. J. Biles, Fort Jefferson, Ohio, March 12, 1838.

"I am not as yet acquainted with every variety of your remedies; but your Liniments for Rheumatism, Head-ache, Bowel Complaint, etc.; Pile and Tetter Salves; and your Diaphoretic and Pectoral Tinctures, I have used in my practice for some time past, and I do assure you I hold them in high esteem; not an instance do I recollect of ever prescribing either of the above medicines, without the most prompt and salutary effect. I would be glad to have forwarded a number of your Advertisers, for circulation, as it is my wish (as I have partly declined practice) to have a knowledge of your valuable medicine thoroughly throughout our section of the country, in order that their use may become general as a family medicine, for which purpose they are so wisely adapted."

From Samuel H. Saunders, Esq., Springfield, Ohio, March 26, 1838.

"The bottle of Head-ache Liniment I purchased of you when last in Columbus, for Mrs. General Bond, of London, was applied a few days afterwards, with her first paroxysm of nervous head-ache after she got it from me. I saw General Bond three months after, and of his own accord, his face beaming with joy, he remarked to me, that '*Jewett's Liniment for Head-ache cured his wife of her long-continued and severe paroxysm of that disorder, and at one application; because (said he) it has never returned upon her since.*'"

From Rev. E. McDaniel, M. D., Beardstown, Illinois, March 28, 1838.

"As to your chiminal remedies, I know not how to speak their worth. I am better pleased with their certainty of effect, and promptness of action, than any of my previous acquaintance. The most prominent forms of disease, successfully treated under my observation, have been, quotidian and tertian ague, bilious inflam-

matory rheumatism, lumbago, hysteritis, amenorrhea, sick headache, cholera morbus, and pleurisy—all of which have yielded readily to your remedies. I am happy to know that that confidence to which your remedies are entitled, is spreading far and wide. Such are the effects produced, that a little time will establish them, through the *far West*, as a family medicine.”

From Dr. E. C. Keckeley, Charleston, S. C., April 1, 1838.

“Your preparations, I am pleased to say, are gaining a firm foundation. I cannot do without them in my practice—they are so safe, so simple, and so certain of overcoming the diseases for which they are designed. I have succeeded lately in curing a case of paralysis in one side of the body, in an old woman, with three ounces of your Stimulating Liniment. I have known two or three cases of incipient consumption cured by a small quantity of your Consumption Liniment. Your Pile Salve cures every case. I have not failed in one instance. I cannot be more explicit—but one thing is certain, that with all that has been published, your remedies have not been sufficiently highly recommended.”

From Rev. A. Edwards, March 20, 1838.

“As I promised I would give you more marked cases for publication, I have come to the conclusion that it is my bounden duty to ‘render unto Cesar the things that are Cesar’s.’

“SCROFULA.—Some time the last spring, I was called to see a child in this village, about five or six years old, laboring under scrofula. He had indolent tumors which had seriously affected one of the conglobate glands, near the size of a hen’s egg, movable under the skin, without pain or discoloration; the circulating fluids had become very much corrupted, with general cutaneous eruptions. Many means had been resorted to for relief, without benefit. When I was called, I commenced an application of the Stimulating Liniment over the surface of the body, and gave the Alterative Drops, occasionally applying the saline wash. The re-

sult was truly astonishing; for in two or three weeks the boy was cured, and remains well at this time, which has been nearly one year.

“**ST. VITUS’ DANCE.**—A young lady of this place had been laboring under the above complaint for a long time. Several physicians have treated the case without success. The disease continued to rage; her appearance was truly frightful. After I was called, I applied your remedies for that complaint, accompanied with my pills as an alterative, and gave her valerian tea, and applied the saline bath; and in less than two months she was entirely cured, and so remains to this day, nearly a year after the cure was effected.

“**TYPHUS SYNCOPALIS FEVER.**—I was called to see a girl, a few miles from this village, laboring under some indisposition of fever; and when on my last visit to her, after her convalescence, her brother was attacked with the above disease. It was distinguished by sudden and great debility, from the first attack, which prostrated the system at once, without any appearance of reaction; extremities cold, and the skin entirely insensible to the most powerful rubefacients; a sense of fainting at the stomach; pain in the epigastrium and head; then vertigo, and delirium. I commenced the treatment by a liberal application of the Liniment and Diaphoretic Drops, and my pills as a cathartic. At first, I failed to produce a perspiration, or a passage from the bowels; I then gave one drop of croton oil, which had the desired effect: I then ordered the saline bath, made strong by high-wines and vinegar, and then followed up with the Liniment and strong mustard poultices to the wrists and bottoms of the feet—it now being nearly forty-eight hours from the first attack, without one hour’s relief from the dreadful rage of delirium and obstructed perspiration. But the bath and Diaphoretic Drops acted powerfully in removing the delirium and producing perspiration, which seemed to relieve him of all his disease, except a pressure of phlegm at the stomach, which I endeavored to remove by the Pectoral Tincture emetic, but I feared he would sink under the operation; I then applied the Liniment freely to his stomach, which had the most happy effect; I then gave him two pills, which had the appearance of removing the remains of disease. His strength was so exhausted, that I

gave him port wine, loaf sugar, and nutmeg, which appeared to strengthen him much, and in a short time he was entirely restored to health, as a living monument of the superiority of the chymical remedies and medical compounds.

“**PROLAPSUS UTERI.**—I was recently called to treat a case of the above disease. It was one of the worst cases that has come under my observation. The abdomen was distended, the uterus collapsed, and the whole system much prostrated, together with the most excruciating pain, attended with alarming symptoms of inflammation. I made the ordinary prescriptions for such diseases, but without effect. I then applied the saline vapor—and to the uterus, through the medium of the vagina, a decoction of an astringent and slightly stimulating character—and I applied to the intestinal canal, through the rectum, a decoction highly impregnated with the Diaphoretic Drops, and at the same time ordered the abdomen to be fully rubbed with the Liniment, and a large plaster applied to the same, and in a short time she became convalescent, and a few days more restored her to good health.”

From the same.

HYDROCARDIA, DROPSY OF THE HEART—DROPSY OF THE PERICARDIUM.—“I have been called to visit some four or five cases of the above complaint during the winter and spring, and been successful in every case, when timely called. In all the cases where there was but an inconsiderable accumulation of water in the pericardium, I have found no difficulty in overcoming it by the use of your remedies; and all the most forbidding cases where I have succeeded, I have used, in addition to your remedies, my alterative pills; a strong tea of valerian and the saline vapor, all with the happiest effects. This vapor may be produced by putting a small quantity of salt into alcohol, in a cup, and set on fire under a chair, on which sits the patient, covered with a blanket only—at the time of this application, the Diaphoretic Drops may be administered, and other warming teas. The patient will perspire freely, without danger of being faint. I consider this bath a pow-

erful auxiliary to your remedies, It is simple and perfectly safe. It acts on the nerves as a relaxant, and on the system generally as a tonic."

REMARK.—The dropsy of the heart is a collection of fluids in the pericardium, which may be either coagulable lymph, serum, or puriform fluid. It produces symptoms similar to those of hydrothorax, with violent palpitations of the heart, and mostly an intermittent pulse. The most skillful physicians have pronounced it incurable.

From Perrine & Gould, Mobile, Alabama, April 12, 1838.

RHEUMATISM.—"Dr. Davis speaks highly of your remedies, and says he could produce hundreds of testimonials of cures performed by your medicine. For ourselves, we are happy to be a witness to the many surprising cures performed by your Rheumatic Liniment. In fact, it is generally spoken of in terms of the highest praise. No doubt the other preparations will be equally popular when they become as well known."

From Mrs. C. Burnside, Gambier, Ohio, May 20, 1838.

PARALYSIS.—"In August, 1835, I was attacked with a paralytic affection, that immediately rendered me helpless, and settled in the left side, from head to foot. It required three persons to lift me up in bed, and for three months I was entirely unable to move in bed without assistance. My physician mistook the complaint for rheumatism. After a long time, however, I mended slowly, and was able to walk; but when I commenced the use of your remedies, I could not lift my hand to my head, or cut my own food. I had not strength in my arms to break even a thread, without inconvenience. I was drawn down on one side quite out of shape, when I first was so fortunate as to procure a vial of your Liniment, the application of which soon afforded me so much relief, that I was enabled to make a journey to Columbus, to visit you. The journey, and the remedies I procured and administered, have been the means of restoring me to better health than I have enjoyed for

years, as I have for a long time been afflicted with a complication of diseases. I am now fifty-five years of age, rejoicing in the blessings of comfortable health, for which I am indebted, under a kind Providence, to the application of your remedies."

From Lawrence Wade, Jefferson county, Mississippi, June 17, 1838.

DIARRHEA, ETC. ETC.—“To promote the sum of human happiness, and to relieve the afflicted, by all the means in our power, is a duty incumbent upon every good citizen, and constitutes my only object in giving you a relation of the following facts for publication, in such a manner as you may deem best calculated to promote the desired object.

“On or about the last of February, 1837, one of my sons, a child now three years of age, was attacked with whooping cough, with which it suffered severely for about six weeks, when it was violently affected with the bowel complaint, which continued until September last, under all the various types and forms of that disease; and which had reduced it to a mere skeleton. During that time I had several physicians of acknowledged skill to attend the child, all of whom pronounced it past the power of medicine even to relieve, much less to cure. They all agreed that the lungs of the child had become diseased with what they termed pneumonia, or inflammation of those organs. I am satisfied that they were right as to the nature of the disease, but to describe fully its hopeless situation and sufferings, is totally beyond my powers to do with a pen; suffice to say, that the child was conveyed in a carriage, (but with the greatest difficulty,) twelve miles, to Mr. Darden's house, and where, by the solicitation of Mrs. Darden, a trial was to be made by Dr. B. G. Key, with your Liniments, Pectoral Tincture, etc. The child suffered from the effects of calomel by salivation also, and it was the opinion of most persons, and expressed by one of its physicians, that it never could be returned home alive. For myself, I had no expectation of its recovery, and suffered an application of the Liniments only to gratify others; for I confess, my feelings were very much opposed to what I *then* considered an experiment.

"I have only to say that no other medicine but your preparations were made use of, and that, to my great surprise, as well as inexpressible gratification, the child is restored to perfect health and soundness; its flesh has come upon it, *in very deed*, 'like a child's,' and in all respects appears as though it never had been sick. It will be recollected also, that it was in September last, the very season of the year when disease is very fatal in this country, that Dr. Key commenced, in the foregoing case, the use of your Liniments. The Stimulating Liniment was rubbed over the whole body and limbs, and a buckskin plaster of the same, in form of a vest, covering the whole chest, constantly worn; once in two days washing off clean with soap and water, wiping dry, then applying the salt bath, and immediately applying the big plaster again, well covered with Liniment. The child was first vomited with Pectoral Tincture, which caused it to throw immense quantities of phlegm from the stomach, and afterwards the use of the Pectoral, combined with the Diaphoretic Drops, was continued, by giving every two hours, of the mixture, from six to ten drops, diluted in water; and at times, when required to vomit, which was not often, from fifteen to twenty drops of the Pectoral Tincture, diluted in water; and lastly, the Vegetable Syrup was given freely."

From J. A. Fairchild, near Raymond, Hinds county, Mississippi, June 21, 1838.

DIARRHEA AND FEVER.—"Sir: In the month of June, 1835, I first became satisfied of the power possessed by your medicines for the removal of disease. Two of my black men, at that time, were very sick; one of them was so reduced by diarrhea, which had baffled every effort of skill or medicine to relieve for six weeks, that I had given up all expectation of his recovery—he was, in truth, a hapless being; could neither stand or walk, and his digestive organs were so impaired, and his whole system so deranged, that even the most simple gruels or soups of any kind, taken into the stomach, would pass his bowels, in a few minutes, in nearly its original state. He then got past taking food or medicine of any kind, internally, and his voice had sunk so low (as

in a case of cholera) as scarcely to be heard. As a last resort, and surely with but little hopes, I applied your Stimulating Liniment over the whole surface of the body, and continued rubbing it in for two hours; his discharges stopped upon him as soon as I had got it applied over the whole chest, and he immediately gained strength. The same application was made the next day, when he was able to walk, and, in three days, he was so far recovered as to commence labor moderately of his own accord, and with a good appetite for any kind of food; and he has remained in good health ever since.

“The other man was confined with a very high fever: his pains in the back and head were most excruciating. I applied the Stimulating Liniment over the whole body, (for I could not obtain any of the Fever Liniment,) and, in the course of two hours, he was free from all pain, and in a full perspiration; he got well immediately.

“In neither of the foregoing cases was any other medicine made use of after commencing with the Liniment, nor was there any given internally.

“To state all the cases cured by your remedies, within my knowledge, even of diseases of the most dangerous kind, would require so lengthy a communication as to be tedious to your readers. Suffice, therefore, to say that, since the use of your Liniment in 1835, my own family, white and black, has numbered about eighty persons of all ages, and there has not been a single death among them all, except only one black woman, who died in child birth.

“You will please make use of this letter in such way and manner as you may deem best calculated to convey the knowledge of your most useful medicines to the whole human family, if possible.”

From Dr. William Armstrong, Philadelphia, April 25, 1838.

INSANITY.—“I have just received a small lot of your medicine, and, so far as I have tested them, they fully answer my expectations. Some of my most severe cases of chronic complaints are mending under their influence. From what I have already discovered, I am confident your remedies will soon go into general

use in this city. Your Head-ache Liniment far exceeds any remedy I ever knew. There are cases here that have been cured *immediately*. I have been using your remedies on a maniac taken from the Lunatic Asylum and brought to my house. We kept her one week, and she appeared much better; but she was so troublesome I could not keep her longer. The medicines are to be continued on her after she returns to the Asylum."

From the same, May 14, 1838.

"I can do more business with your remedies, and approach the bed-side of the sick with more confidence, than I ever did before I became acquainted with them. I consider your medicine to be a great blessing to mankind, and my confidence grows stronger as every case confirms me of the virtues and powers it possesses in the sudden removal of disease. It has been repeatedly asked why there were no great cases, as published in the Advertiser, in this city—the cases being so far off, they cannot see the individual who was cured, or they would try the medicine. Now, to obviate this difficulty, I will give you a living witness in Philadelphia that cannot be doubted; if it should, with the strong proof I have in my possession, they will doubt though one should rise from the dead: Mr. G. T. was laboring under a severe and low typhus fever—not expected to live from one hour to another; and, with this, an inflammation in the liver, great pain and prostration, and a cough which greatly distressed him. Such was the situation of this gentleman. We utterly despaired of his life. His wife, who waited on him as an attentive woman should do in such distressing cases, has the satisfaction of seeing him restored to entire health by a persevering use of your remedies. I gave no other medicine; but applied your Liniments faithfully over most of the body until a reaction took place. I shall never forget the gentleman's remark when applying it, as the relief was so *instantaneous*; when applying it over the region of the liver, he observed it acted *like a charm*. At one time, when perfectly delirious, we bathed his feet in a strong solution of salt and water, and then the Liniment, and, in a short time, equilibrium took place; he soon gained

his right mind, and became convalescent, and is now in health again.

“Another case of much interest came under my observation: a lady who called on me to prescribe for her in case of a wen, so called by some very learned medical gentlemen who were then in attendance on her. The physician advised a flax-seed poultice to cause suppuration. It was finally determined that it was not a wen, but a white swelling. She was attended, by three gentlemen, three years, and, with your remedies, I cured her in three weeks; and she now lives—yes, she lives, as a monument of an almost miraculous cure, to be seen by the gentlemen and ladies of this city.

“I have recently cured a most distressing case of inflammatory rheumatism by your remedies.

“The maniac staid with us one week only—she was much better, and continued so while using your medicine; but, after she returned to the Asylum, she would not take any of the medicine, nor suffer any of the Liniment to be applied, assigning as a reason, ‘*My doctor is not here.*’ We expect to have her back again soon. The higher classes of society in this city, who have used your remedies, approve of them as preferable to any and all others, and you may be assured that, with them, they will generally find favor.”

From the same, May 26.


“The maniac has returned, and is with me, and is evidently better. If I cure her, it will be the greatest miracle ever performed in this or any other country. Her case is a very noted one. I took her from the Friends’ Lunatic Asylum, a famous place for lunatics, about six miles from Philadelphia.”

From the same, July 3.

“I have asked for no testimonials in the cases which have been cured by your remedies—an abundance can be found at any time. I can, as before, state that I view them as excellent. Rheumatism,

head-ache, dyspepsia, fever, swellings, etc., are easily overcome by them.

“In the case of the maniac, I have entirely depended on your remedies, and, to my utter astonishment, she is nearly *herself again*. Yes, strange as is the fact, she is now visiting her friends in the city; she appears perfectly rational, and is visiting at her sister's, blending in society, and taking an interest in the common avocation of friends.”

 Since our letter of July 3, we have a communication from Dr. Armstrong, with the assurance that the maniac is entirely restored to her health and to her right reason, and that she is now enjoying the society of her friends in Philadelphia.

PART III.

PHYSIOLOGICAL.

MECHANISM OF THE HUMAN SKELETON.

THERE is scarcely a part of the animal body, or an action which it performs, or an incident that can befall it, or a piece of professional assistance which can be given to it, that does not furnish illustration of some truth of natural philosophy; but we shall here only touch upon as many particulars as will make the understanding of others easy.

THE CRANIUM OR SKULL, is an instance of the arched form, answering the purposes of giving strength. The brain, in its nature, is so tender, or susceptible of injury, that slight local pressure disturbs its action. Hence, a solid covering, like the skull, was required, with those parts made stronger and thicker, which are most exposed to injury. An architectural dome is constructed to resist one kind of force only, always acting in one direction, namely, gravity; and therefore its strength increases regularly towards the bottom, when the weight and horizontal thrust of the whole are to be resisted; but the tenacity of the substance is many times more than sufficient to resist gravity, and therefore aids the form to resist forces of other kinds, operating in all directions. When we reflect on the strength displayed by the arched film of an egg shell, we need not wonder at the severity of blows the cranium can withstand.

Through early childhood, the cranium remains, to a certain degree, yielding and elastic; and the falls and blows so frequent during the lessons of walking, etc., are borne with impunity. The mature skull consists of two layers, or tables, with a soft diploe between them; the outer table being very tough, with its parts dovetailed into each, as tough wood would be by human artificers, while the inner table is harder, and more brittle, (hence called **VITREOUS**,) with its edges merely lying in contact, because its brittleness would render dovetailing useless. A very severe partial blow on the skull, generally fractures and depresses the part, as a pistol bullet would; while one less severe, but with more extended contact, being slowly resisted by the arched form, often injures the skull, by what is correspondent to the horizontal thrust, in a bridge, and causes a crack at a distance from the place struck, generally half way round to the opposite side. Sometimes in a fall, with the head foremost, the skull would escape injury, but for the body, which falls on it, pressing the end of the spine against its base.

In the **LOWER JAW**, we have to remark the greater mechanical advantage, or lever power, with which the muscles act, than in most other parts of animals. The temporal and masseter muscles, pull almost directly at right angles to the line of the jaw, while in most other cases, as in that of the deltoid muscle lifting the arm, the muscles act very obliquely, and with power diminished in proportion to the obliquity. An object placed between the back teeth, is compressed with the whole direct power of the strong muscles of the jaw: hence the human jaw can crush a body which offers great resistance; and the jaws of the lion, tiger, shark, crocodile, etc., are stronger still. The teeth rank high among those parts of the animal body, which appear almost as if they were severally the fruits of distinct miraculous agencies, so difficult is it to suppose a few simple laws of life, capable of producing the variety of form so beautifully adapted to purposes which they exhibit. They constitute an extraordinary set of chisels and wedges, so arranged as to be most efficient for cutting and tearing the food, and, with their exterior enamel, so hard, that, in early states of society, teeth were made to answer many purposes, for which steel is now used. It seems, however, as if the laws of

life, astonishing as they are, had still been inadequate to cause teeth, cased in their hard enamel, to grow as the softer bones grow; and hence has arisen a provision more extraordinary still. A set of small teeth appear soon after birth, and serve the child, until six or seven years of age: these then fall out, and are replaced by larger ones, which endure for life; the number being completed only when the man or woman is full grown, by four teeth, called WISDOM TEETH, because they come so late, which rise to fill up the then spacious jaw.

The SPINE, or BACK BONE, has in its structure, as much of beautiful and varied mechanism, as any single part of our wonderful frame. It is the central pillar of support, or great connecting chain of all the other parts; and it has, at the same time, the office of containing within itself, and of protecting from external injury, a prolongation of the brain, called the SPINAL MARROW, more important to animal life, than the greater part of the brain itself. We shall see the spine uniting the apparent incompatibilities of great elasticity, great flexibility in all directions, and great strength, both to support a load, and to defend its important contents.

ELASTICITY.—The head may be said to rest on the elastic column of the spine, as the body of a carriage rests upon its springs. Between each two of the twenty-four vertebræ, or distinct bones, of which the spine consists, there is a soft elastic intervertebral substance, about half as bulky as a vertebra, yielding readily to any sudden jar; and the spine, moreover, is waved, or bent a little, like an italic *f*, as seen when it is viewed sideways; and for this reason also, it yields to any sudden pressure, operating from either end. The bending might seem a defect in a column intended to support weight; but the disposition of the muscles around is such, as to leave all the elasticity of the bend, and a roomy thorax, without any diminution of strength.

FLEXIBILITY.—The spine may be compared to a chain, because it consists of twenty-four distinct pieces, joined by smooth rubbing surfaces, so as to allow of motion in all directions; and a little motion, comparatively, between each two adjoining pieces, becomes a great extent of motion in the whole line. The articu-

lating surfaces are so many, and so exactly fitted to each other, and are connected by such number and strength of ligaments, that the combination of pieces is really a stronger column, than a single bone of the same size would be. The strength of the spine, as a whole, as shown in a man's easily carrying upon his head, a weight heavier than himself, while each separate vertebra is a strong irregular ring, or double arch, surrounding the spinal marrow. The spine increases in size towards the bottom, in the justest proportion, as it has the more weight to bear.

THE RIBS.—Attached to twelve vertebræ, in the middle of the back, are the ribs, or bony stretchers of the cavity of the chest, constituting a structure which solves, in the most perfect manner, the difficult mechanical problem of making a cavity, with solid exterior, which shall yet be capable of dilating and contracting itself. Each pair of corresponding ribs may be considered as forming a hoop, which hangs obliquely down from the place of attachment behind; and so that, when the forepart of all the hoop is lifted by the muscles, the cavity of the chest is enlarged.

We have to remark the double connection of the rib behind, first to the bodies of two adjoining vertebræ, and then to a process or projection from the lower, thus effecting a very steady joint, and yet leaving the necessary freedom of motion; and we see the forepart of the rib to be of flexible cartilage, which allows the degree of motion required there, without the complexity of a joint, and admirably guards, by its elasticity, against the effect of sudden blows or shocks. The muscles, which have their origin on the ribs, and their insertion into the bones of the arm, afford us an example of action and reaction, being equal and contrary. When the ribs are fixed, these muscles move the arm; and when the arm is fixed, by resting on a chair, or other object, they move the ribs. This is seen in fits of asthma and dyspnœa.

The **SHOULDER-JOINT** is remarkable for combining great extent of motion with great strength. The round head of the shoulder-bone rests upon a shallow cavity in the shoulder-blade, that it may turn in always; and the danger of dislocation from this shallowness is guarded against by two strong, bony projections, above and behind. To increase the range of motion to the greatest possible degree, the bone called the shoulder-blade, which contains the

socket of the arm, slides about itself upon the convex exterior of the chest, having its motion limited only by a connection through the collar-bone, or clavicle, with the sternum. The scapula, or blade-bone, is extraordinary, as an illustration of the mechanical rules for combining lightness with strength. It has the strength of the arch, from being a little concave, and its substance is chiefly collected in its borders and spines, with thin plates between, as the strength of a wheel is collected in its rim and spokes, and nave. The bones of the arm, considered as levers, have the muscles which move them, attached very near to the fulcra, and very obliquely; so that, from working through a short distance, comparatively, with the resistance overcome at the extremities, the muscles require to be of great strength. It has been calculated, that the muscles of the shoulder-joint, in the exertion of lifting a man upon the hand, pull with a force of two thousand pounds. The os humeri, or bone of the upper arm, is not perfectly cylindrical; but, like most of the other bones which are called cylindrical, it has ridges to give strength.

The ELBOW-JOINT is a correct hinge, and so strongly secured, that it is rarely dislocated without fracture. The fore-arm consists of two bones, with a strong membrane between them. Its great breadth, from this structure, affords abundant space for the origin of the many muscles that go to move the hand and fingers; and the very peculiar mode of connection of the two bones, give man that most useful faculty of turning the hand round, into what are called the positions of pronation and supination, exemplified in the action of twisting, or of turning a gimblet.

THE WRIST.—The many small bones forming this, have a signal effect of deadening, in regard to the parts above, the shocks or blows which the hand receives. The annular ligament is a strong band, passing round the joints, and keeping all the tendons which pass from the muscles above to the fingers, close to the joint. It answers the purpose of so many fixed pulleys, for directing the tendons: without it they would all, on action, start out like bow-strings, producing deformity and weakness. The human hand is so admirable, from its numerous mechanical and sensitive capabilities, that an opinion at one time commonly prevailed, that man's superior

reason depended on his possessing such an instructor and such a servant. Now, although reason, with hoofs instead of fingers, could never have raised man much above the brutes, and probably could not have secured the continued existence of the species, still the hand is no more than a fit instrument of the god-like mind which directs it.

The PELVIS, or strong, irregular ring of bone, on the upper edge of which the spine rests, and from the sides of which the legs spring, forms the center of the skeleton. A broad bone was wanted here, to connect the central column of the spine with the lateral column of the legs; and a circle was the lightest and strongest. If we attempt, still further, to conceive how the circle could be modified to fit it for the spine to rest on, for the thighs to roll in, for muscles to hold by, (both above and below,) for the person to sit on—we shall find, on inspection, that all our anticipations are realized in the most perfect manner. In the pelvis, too, we have the thyroid hole and ischiatic notches, furnishing subordinate instances of contrivance to save material and weight: they are merely deficiencies of bone, where solidity could not have given additional strength. The broad ring of the pelvis protects most securely the important organs placed within it.

The HIP-JOINT exhibits the perfection of the ball and socket articulation. It allows the foot to move round in a circle, as well as to have the great range of backward and forward motion exhibited in the action of walking. When we see the elastic, tough, smooth cartilage, which lines the deep socket of this joint, and the similar glistening covering of the ball or head of the thigh bone, and the lubricating synovia poured into the cavity by appropriate secretories, and the strong ligaments giving strength all around, we feel how far the most perfect of man's works fall short of the mechanism displayed by nature.

The THIGH-BONE is remarkable for its projections, called trochanters, to which the moving muscles are fixed, and which lengthen considerably the lever by which the muscles work. The shaft of the bone is not straight, but has a considerable forward curvature. Short-sightedness might suppose this a weakness, because the bone is a pillar supporting a weight; but the bend gives it, in

reality, the strength of the arch, to bear the action of the mass of muscle called vastus, which lies and swells upon its fore-part.

The **KNEE** is a hinge-joint of complicated structure, and it claims the most attentive study of the surgeon. The rubbing parts are flat and shallow, and therefore the joint has little strength from form; but it derives security from the numerous and singularly strong ligaments which surround it. The ligaments on the inside of the knees, resemble, in two circumstanced, the angular ligaments of joints—namely, in having a constant and great strain to bear, and yet in becoming stronger always as the strain increases. The line of the leg, even in the most perfect shape, bends inward a little at the knee, requiring the support of the ligaments; and, in many persons, it bends very much; but the inclination does not increase with age. The legs of many weakly in-kneed children, become straight by exercise alone. This inclination at the middle joint of the leg, by throwing a certain strain on the ligaments, gives an increase of elasticity to the limb, in the actions of jumping, running, etc. In the knee, there is a singular provision of loose cartilages, which have been called friction-cartilages, from a supposed relation in use to friction-wheels; but their real effect seems to be to accommodate, in the different positions of the joint, the surfaces of the rubbing bones to each other. The great muscles on the forepart of the thigh, are contracted into a tendon, a little above the knee, and have to pass over, and in front of the knee, to reach the top of the leg, where their attachment is. The tendon, in passing over the joint, becomes bony, and forms the patella, or knee-pan, often called the pulley of the knee. This peculiarity enables the muscles to act more advantageously, by increasing the distance of the scope from the center of motion. The patella is, moreover, a sort of shield, or protection to the forepart of this important joint.

The **LEG** below the knee, like the fore-arm already described, has two bones. They offer spacious surface of origin for the numerous muscles required for the feet; and they form a compound pillar of greater strength, than the same quantity of bone as one staff would have had. The individual bones, also, are angular, instead of round—hence deriving greater power to resist blows.

The **ANKLE-JOINT** is a perfect hinge, of great strength. There is in front of it an annular ligament, by which the greater part of the tendons, passing downwards to the foot and toes, are kept in their places. One of these tendons passes under the bony projection of the inner ankle, in a smooth appropriate groove, exactly as if a little fixed pulley were there.

The **HEEL**, by projecting so far backwards, is a lever for the strong muscles to act by, which form the calf of the leg, and terminate in the tendo-achillis. These muscles, by drawing at it, lift the body, in the actions of standing on the toes, walking, dancing, etc. In the foot of the negro, the heel is so long as to be ugly, in European estimation; and its great length rendering the effort of smaller muscles sufficient for the various purposes, the calf of the leg in the negro is smaller, in proportion, than in other races of men.

The **ARCH OF THE FOOT** is to be noticed as another of the many provisions for saving the body from shocks, by the elasticity of the supports. The heels and the balls of the toes are the two extremities of the elastic arch, and the leg rests between them. Connected with elasticity, it is interesting to remark how imperfectly a wooden leg answers the purpose of a natural leg. With the wooden leg, which always remains of the same length, the center of the body must describe, at each step, a portion of a circle, of which the bottom knob of the leg is the center, and the body is therefore constantly rising and falling; while, with the natural legs, which, by gentle flexure at the knee, are made shorter or longer, in different parts of the step, as required, the body is carried along in a manner perfectly level. In like manner, a man riding on horseback, if he keep his back upright and stiff, is jolted by every step of the trotting animal; but the experienced horseman, even without rising in the stirrups, by letting the back yield a little at each movement, as a bent spring yields during the motion of a carriage, can carry his head quite smoothly along.

In a general review of the skeleton, we have to remark,

1. The nice adaptation of all the parts to each other, and to the strains which they have respectively to bear; as in the size of the

spinal vertebra, increasing from above downwards, the bones of the leg being larger than those of the arm, and so on.

2. The objects of strength and lightness combined, as by the hollowness of the long bones; their angular form, their thickening and flexures in particular places where great strain has to be borne; the enlargement of the extremities to which the muscles are attached, lengthening the lever by which these act.

3. We have to remark the nature and strength of material in different parts, so admirably adapted to the purposes which the parts serve. There is a bone, for instance, in one place, nearly as hard as iron, where, covered with enamel, it has the form of teeth, with the office of chewing and tearing all kinds of matter used as food. In the cranium, again, bone is softer, but tough and resisting; in the middle of long bones, it is compact and little bulky, to leave room for the swelling of the muscles lying there; while, at either end, it is large and spongy, with the same quantity of matter, to give a broad surface for articulation; and, in the spine, the bodies of the vertebra, which rest on an elastic bed of intervertebral substance, are light and spongy, while their articulating surfaces and processes are very hard. In the joints, we see the tough, elastic, smooth substance, called cartilage, covering the ends of the bones, defending and padding them, and destroying friction. In infants, we find all the bones soft or gristly, and therefore calculated to bear, with impunity, the falls and blows unavoidable at their age; and we see certain parts remaining cartilage or gristle for life, where their elasticity is necessary or useful, as at the anterior extremities of the ribs. About the joints, we have to remark the ligaments, which bind the bones together, possessing a tenacity, scarcely equalled in any other known substance; and we see that the muscular fibres, whose contractions move the bones, and thereby the body—because they would have made the limbs clumsy, even to deformity, had they all passed over the joints, to the parts which they have to pull—attach themselves, at convenient distances, to a strong cord called a tendon, by means of which, like a hundred sailors at a rope, they make their effort effective at any distance. The tendons are remarkable for the great strength which resides in their slender forms, and for the lubricated smoothness of their surfaces. Many other striking particulars might be enumerated; but these may suffice. Such, then,

is the skeleton, or general frame-work of the human body; less curious and complicated, perhaps, than some other parts of the system, but so perfect and so wonderful, that the mind which can attentively consider it without emotion, is in a state not to be envied. The living force of man has been used as a working power in various ways, as in turning a winch, pulling at a rope, walking in the inside of a large wheel to move it, as a squirrel or turn-spit dog moves his little wheel, etc. Each of these has some particular advantage; but that made in which, for many purposes, the greatest effect may be produced, is for the man to carry up to a height his body only, and then to let it work by its weight in descending. A bricklayer's laborer would be able to lift twice as many bricks to the top of a house, in the course of a day, by ascending a ladder without a load, and raising bricks of nearly his own weight, over a pulley each time in descending, as he can by carrying bricks and himself up together, and descending again without a load, as is still usually done. Reflection would naturally anticipate the above result, independently of experiment; for the load which a man should be best able to carry, is surely from which he can never free himself—the load of his own body.

Accordingly, the strength of muscles and disposition of parts, are all such as to make his body appear light to him. The question which was agitated with such warmth sometime ago, as to the propriety of making men and women work on the tread-mill, receives an easy decision here. They work by climbing on the outside of a large wheel or cylinder, which is turned by their weight, and on which they must advance just as fast as it turns, to avoid falling from their proper situation. There are projections or steps for the feet on the outside of the cylinder, and the action to the workers is exactly that of ascending an acivity. Now, as nature has fitted the human body for climbing hills, as well as for walking on plains, the work of the tread-mill, under proper restrictions as to duration, must be as natural and healthful as any other. Its effects have now proved it to be so. As animal power is exhausted exactly in proportion to the time during which it is acting, as well as in proportion to the intensity of force exerted, there may often be a great saving of it by doing work quickly, although with a little more exertion during the time. Suppose two men of equal weight to ascend the same stairs, one of whom takes only a min-

ute to reach the top, and the other takes four minutes ; it will cost the first but a little more than a fourth part of the fatigue which it cost the second, because the exhaustion has relation to the time during which the muscles are acting. The quick mover may have exerted, perhaps, one twentieth more force in the first instant, to give his body greater velocity, which was afterwards continued : but the sloth supported his load four times as long.

A healthy man will run rapidly up a long stair, and his breathing will scarcely be quickened at the top ; but if he walk up slowly, his legs will feel fatigued, and he will have to wait sometime, before he can speak calmly. For this same reason, coach-horses are much spared by being made to gallop up a short hill, and being then allowed to go more slowly for a little time, so as to rest at the top. The rapid waste of muscular strength, which arises from continued action, is shown, by keeping the arm extended horizontally for some time ; few can continue the exertion beyond a minute or two. In animals which have long horizontal necks, there are provisions of nature in a strong elastic substance on the back or upper part of the neck, which nearly supports the head, independently of muscular exertion.

HEART.

A HOLLOW, muscular organ, the function of which is to maintain the circulation of the blood, and which is of different formations in different animals.

The organs of circulation are the heart, the arteries, the veins, and the capillary vessels. The blood is divided into the arterial blood and the venous blood. The object of the circulation is to carry the venous blood, which has returned from the body, into the lungs, where, by the influence of the air, it is converted into arterial blood, which is then again sent out into the system to nourish it and repair its losses. The heart in men, quadrupeds, and birds, is composed of four cavities, two auricles, and two ventricles, (thence called *double*.) It is enveloped in a membrane called the *pericardium*, situated toward the left of the cavity of the chest, between the lungs, and resting on the diaphragm. Its form is that of a cone flattened on its inferior and superior faces, the latter formed principally by the right, the former by the left, auricle and ventricle. The right auricle communicates with the right ventricle, besides which there are in it three openings: that of the *vena cava inferior*; that of the *vena cava superior*; and that of the coronary vein. The communication between this auricle and ventricle is closed by a valve when the heart contracts; the right or pulmonary ventricle communicates with the pulmonary artery, which is provided with three valves. When these valves are brought together, they interrupt the communications between the ventricles and the artery. The left auricle communicates with the left ventricle, and contains, also, the orifices of the four pulmonary veins. The left ventricle, besides the communication with the left auricle, contains the orifice of the aorta. The ventricles are divided from each other by a fleshy wall, called the *septum cordis*. The valves, at the opening of the arteries, are called *semi-lunar*; that at the orifice of the right auricle, *tricuspid*; that at the orifice of the left auricle, *mitral*; and that at the orifice of the *vena cava inferior*, the *eustachian* valve.

The heart is formed of a firm, thick, muscular tissue, composed of fibers interlacing with each other. It is also composed of nerves, membranes, and vessels. The coronary arteries arise from the aorta, and are distributed on the heart. The coronary veins re-

turn the blood of the heart into the right auricle. The arteries are the vessels which serve to carry the blood from the heart to all parts of the body; they terminate in the capillary vessels, a series of extremely minute vessels, which pass over into the veins. The veins are the channels by which the blood passes back from the body into the auricles of the heart. The blood which is returned from the veins is black, and is called *venous*; that which leaves the heart is red, and is called *arterial*. The red blood, possessing nourishing and vital properties, rises in the capillary system of the lungs, flows into the pulmonary veins, thence is received into the left cavities of the heart, from which it passes into the aorta, and is transmitted to all parts of the body, to the capillary system. It there loses two degrees of temperature, and undergoes other changes, by the loss of some of its elements, in the important functions of nutriment, calorification, and the secretions. It has now become black, passes through the veins, from the extremity of the body, towards the heart, receives the chyle and the lymph, and is emptied into the right cavities of that organ which returns it through the pulmonary artery to the capillary vessels of the lungs, where it is subjected to the influence of the air, resumes the qualities of red or arterial blood, and is ready for a new course. Having thus described the rout of the blood through the different parts of the system, we will now explain the mechanism of the sanguineous system. The blood contained in the two *venæ cavæ* is poured into the right auricle, which contracts, and thus forces the fluid to escape; but the *vena cava* superior opposes to its passage the column of blood which it contains; the other veins are closed by valves, and it must, therefore, pass into the right ventricle. The ventricle then contracts, and the tricuspid valve closing the passage through which the liquid entered, it is forced forward into the pulmonary artery, which contracts, and its orifice being closed by the semi-lunar valve, propels the blood still forward into the capillary system of the lungs, whence it passes into the pulmonary veins, which pour it into the left auricle by their four orifices. The contraction of the auricle impels it into the left ventricle, by which it is, in the same manner, driven forward into the aorta, (the mitral valve preventing its return into the auricle,) and thence into the general circulation, as above described. The two auricles contract and dilate simultaneously with each

other, as do also the two ventricles. The dilatation is called *diastole*; the contraction, *systole*. It is difficult to determine what quantity of blood the heart projects at each systole. It is generally estimated at two ounces.

The causes of the alternate contraction and dilatation of the heart are not less difficult to decide. They are entirely involuntary and dependent on the nervous system. The force of its contraction is likewise unknown. The systole of the ventricles is the cause of the motion of the blood in the arteries, which also dilate with each wave driven into them by the motion of the heart. By what means the blood is made to penetrate the thousand windings of the capillary system, and what causes impel it to flow back through the veins, are yet subjects of dispute among physiologists. The time in which a drop of blood completes its circle of motion, has been differently estimated at from two minutes to twenty-four hours.

Among the lower orders of animals, the organization of the circulating system is very different. The infusoria, polypi, and intestinal worms, have no distinct vessels, much less a heart. The echinodermata have distinct organs of circulation, but no part resembling a heart. Insects have a small cylindrical vessel running along the back, which is rather the rudiment of a vascular system than of a heart. The first traces of a heart are found in some worms in which some expansions are perceptible in a part of the vessel which runs the whole length of the body. In the spider, lateral vessels are given off from the main vessel, and a pulsation is perceptible. The crustacea have a heart composed of one fleshy ventricle. In the mollusca, the heart appears completely formed: some of them have three cavities. The four classes of vertebral animals have red blood; but fishes and reptiles have only what is called a *single heart*, that is composed of one auricle and one ventricle.

LUNGS.

THE organs of respiration in the mammalia, (man, quadrupeds, and the cetaceous animals,) birds and reptiles. The lungs are

situated within the chest, and are divided into two parts, called *lobes*. They are enveloped in a delicate and transparent membrane, derived from the pleura, through which they have the appearance of network, and are connected with the spine by the pleura, with the neck by the windpipe, and with the heart by the roots of the pulmonary artery and veins. In their specific gravity, they are the lightest of all the animal organs, even when exhausted of air; hence their name of *lights*. To the touch they are soft, spongy and elastic. In their internal structure, they are composed of an infinite number of membranous celled blood-vessels, nerves and lymphatics, all connected by cellular substance; small tubes arise from them, which are finally united into one large tube from each lobe, and these two at length join to form the windpipe.

The BLOOD-VESSELS, called the pulmonary vessels, are destined to distribute the blood through the cells, for the purpose of subjecting it to the action of the air; while the bronchial vessels are intended to supply the blood which nourishes the lungs. The cetacea whales and seals breathe by lungs, and are therefore obliged to ascend, at intervals, to the surface of the water, to obtain a supply of atmospheric air. The respiratory orifice, in these animals, is not situated at the extremity of the snout, but on the top of the head. In birds, the lungs are smaller than in quadrupeds; but they have air distributed throughout their muscular system, and in the cavities of the bones.

The lungs afford the means of ascertaining whether a new-born child, which is found dead, was, or was not living, when born; a question often of great importance in forensic medicine. The lungs of the infant are placed in water, to see whether they will swim or sink. Before birth, the lungs are dark red, contracted into a small place within the cavity of the breast, firm, and specifically heavier than water. They therefore sink in water, whether they are entire, or cut into pieces; and when cut, no air-bubbles come forth, either in or out of the water, nor does much blood appear. But if the babe has lived after birth, and therefore breathed, air has entered the lungs; has thus enlarged the cavity of the chest, and the lungs themselves are expanded, and appear of a

loose, spongy texture; of a pale red color, and cover the heart and fill the chest. They then swim in water, as well in connection with the heart, as without it; as well entire, as in pieces. If cut, a peculiar sound is audible; air proceeds from them, and rises, if they are pressed under water, in small bubbles. From the incisions in the lungs, red, and, generally, foamy blood issues. Against this test it has been objected, 1st, That air may be found in the lungs, though the infant never breathed. This could happen, however, only from air having been blown into them; but, in this case, the chest of the infant is not arched; very little blood is to be found in the lungs, and it is not bright red, nor foamy from putrefaction; but in this case, the other parts of the body would also be affected by putrefaction; the lungs are not expanded; pale red; air-bubbles show themselves only on the surface, and not in the interior substance, unless the highest degree of putrefaction has taken place. 2d. It is said that the child may have breathed, and therefore lived, without air being found in the lungs. This is not proved, and is at variance with the received ideas of the manifestation of life. 3d. That part of the lungs may swim, another may sink. This can happen only with lungs in a diseased state, and would only prove an attempt of the infant to breathe, without the possibility of living. 4th. That a child may have lived without breathing; but this state of apparent death cannot be called life. Life cannot be supposed without breath. If all precautions are taken; all attending circumstances considered; the external appearance of the infant well observed, and the state of the other intestines examined, the foregoing test may be considered as sufficient for the decision of the question, whether a child has lived after birth, or not. Another kind of test, by means of the lungs, has been proposed, which is founded on the proportion of the weight of the whole body to a lung which has breathed, and one which has not; and still another, which rests on the circumference of the chest, before and after breathing has commenced. But both are more complicated, troublesome, and less certain than the former one.

B R E A T H .

THE air which issues from the lungs, during respiration through the nose and mouth. This operation is performed without effort, but still it causes a motion in the external air, before the nose and mouth. The air expired is the vehicle of sound and speech. A smaller portion of oxygen and of carbonic acid is contained in the air which is exhaled, than in that which is inhaled. There are, also, aqueous particles in the breath, which are precipitated, by the coldness of the external air, in the form of visible vapor; likewise other substances which owe their origin to secretion in the mouth, nose, windpipe, and lungs. These cause the changes in the breath, which may be known by the smell, like the other qualities of the air.

In youth, the breath is insipid, and contains acid; it loses these qualities, after the age of puberty, and becomes more agreeable. With advancing age, it becomes again unpleasant. A bad breath is often caused by local affections in the nose, the mouth, or the windpipe: viz. by ulcers in the nose, cancerous polypi, by discharges from the mouth, by sores on the lungs, or peculiar secretions in them. It is also caused by rotten teeth, by impurities in the mouth, by many kinds of food, and by fevers. In the last case, it often varies with the character of the disease. The remedy for this complaint must depend on the causes which produce it. Substances of an aromatic kind, which have a strong, rich smell, should be chewed to diminish their offensiveness. But it is often impossible to remove this unpleasant disorder. According to the Prussian code, a bad breath furnishes ground for a divorce.

H E A D .

THE part of the animal body which contains the brain, and the higher organs of sense. In many animals it is connected with the trunk, by the neck, and is more or less moveable, and is merely a prolongation of the trunk. The head, in animals, is more

distinct in proportion, as the brain is more fully developed as the center of the nervous system. It is entirely wanting in the lowest classes of animals, which, therefore, from the intestinal worms downward, form a third class, in the system of Latreille, under the name of *acephala*, (headless animals;) while those provided with heads are divided into two classes, the *vertebral* animals, having distinct and proper heads, and the *cephalidia*, having small and less distinctly formed heads. In this part the mouth, as the opening of the esophagus, is always situated. In the second class of animals, in which the head is less distinct, that part of the body which is provided with the mouth, may be called the *head end*. In the vertebral animals, (mammalia, birds, reptiles, and fish,) the head has a bony basis, (cartilaginous only in the cartilaginous fishes.) In fishes, the bones of the head are not united with each other; and the formation of the separate bones is various. In cartilaginous fishes, the head is more or less oblong and angular; in osseous fishes it is less flattened, and composed of a considerable number of bones, connected in various ways. In all fishes, the cavity of the brain is very small and oblong. Equally various is the formation of the head in the different classes of reptiles. In general, the head is composed of few bones, and more rounded in proportion, as the brain is more developed. In birds, the bones of the head are more closely formed into one whole, constituting a skull more or less round, which contains the brain, and to the forepart of which, the back is attached. But the head is most perfect in the mammalia, and resembles the human head more nearly, as the animal approaches more nearly to man. In general, the human head may be considered as the standard, which may be traced with gradual deviations, through the different classes, until it entirely ceases, in the lower orders of animals. Nowhere is its proper office, to serve for the reception of the nervous system, so distinct as in the human head; the cavity of the skull containing the principal organ of sensitive life—the brain; as the great cavities of the trunk contain the chest, the organs of irritable life, (the heart and lungs,) and the abdominal cavity, the organs of the reproductive life, (the organs of digestion and generation.)

The superiority of the head over the other two parts just mentioned, appears also from the circumstance, that whilst it is pre-

eminently the seat of the nervous system, it also contains organs essential for functions of the irritable and reproductive system; as the inspiration and expiration of the air are effected through the nostrils and mouth, and the entrance of food into the abdominal cavity, as well as the preparation of it for digestion, by mastication and the production of saliva, is effected by the mouth; and these organs appear more prominent, in the heads of animals, as their sensitive system sinks lower in the scale. It must not be forgotten, that the head also contains the tongue, an organ not only important in respect to nourishment, but also communicating the desires and thoughts, until it becomes, in man, the organ of oral intercourse, of language, and of the finest music—singing.

The human head, and, more or less, the head of other animals, is divided into two chief parts, the skull and the face. The importance of the head, as the noblest part of the animal system, has occasioned it to be used metaphorically, in all languages, to denote that which is chief.

B R A I N .

THE brain is a soft substance, partly reddish-gray and partly whitish, situated in the skull, penetrated by numerous veins, and invested by several membranes. Democritus and Anaxagoras dissected this organ, almost three thousand years ago. Haller, Vieq d'Azir, and other anatomists in modern times, have also dissected and investigated it, without exhausting the subject.

Between the skull and the substance of the brain, three membranes are found. The outer one is called the *dura mater*. This is strong, dense, and elastic. It invests and supports the brain. The next which we meet is the *tunica arachnoidea*. This is of a pale white color, yet in some degree transparent, very thin, and, in a healthy state, exhibits no appearance of vessels. The membrane below this, is called the *pia mater*. It covers the whole surface of the brain. It is very vascular, and a great portion of the blood which the brain receives, is spread out upon its surface, in minute vessels.

The brain consists of two principal parts, connected by delicate veins and fibers. The larger portion, the *cerebrum*, occupies, in men, the upper part of the head, and is seven or eight times larger than the other, the *cerebellum*, lying behind and below it. It rests on the bones which form the cavities of the eyes, the bottom of the skull, and the tentorium, and projects behind over the *cerebellum*. On the whole exterior of the *cerebellum*, there are convolutions, resembling the windings of the small intestines. The external reddish substance of the brain is soft and vascular, and is called the *cortical* substance; the internal is white, and is called the *medullary* substance of the brain. This medulla consists of fibers, which are very different in different parts. The *cerebellum* lies below the *cerebrum*, in a peculiar cavity of the skull. By examining the surface, it is seen to be divided into a right and left lobe, by the spinal marrow lying between, but connected at the top and bottom. Like the *cerebrum*, it is surrounded by a vascular membrane, reddish-gray on the outside, and composed of a medullary substance within. In proportion to its size, also, it has a more extensive surface, and more of the vascular membrane, than the *cerebrum*. In a horizontal section of it, we find parallel curved portions of the cortical and the medullary substances alternating with each other. Between the cortical and the medullary substances, there is always found, in the *cerebellum*, a third intermediate yellow substance. All the medulla of the *cerebellum* is also united in the middle by a thick cord.

Experience teaches, that in the structure of the brain, irregularities are far more uncommon than in other parts of the human body. It is worthy of observation, that every part of the brain is exactly symmetrical with the parts opposite. Even those which lie in the middle, and are apparently single, consist, in fact, of two symmetrical portions. The total weight of the human brain is estimated at two or three pounds. It is larger and heavier in proportion to the youth of the subject; and in old age it becomes specifically lighter. In delirious affections, it is sometimes harder, and sometimes less solid, and softer. The brain is the organ of sensation, and, consequently, the material representative of the soul, and the noblest organ of the body.

NERVES.

THE nerves of the animal frame are composed of bundles of white parallel medullary threads. Every bundle is surrounded with a soft sheath full of blood vessels, and whose finest branches terminate in the substance of the nerves. These nerves are spread through the whole animal frame, and variously connected with each other. Only the epidermis, hair, and nails are destitute of them. They are of various sizes, according as they are composed of more or fewer bundles of medullary threads. In the course of the nerves, there are a number of knots, these are called *ganglions*; they are commonly of an oblong shape, and of a grayish color, somewhat inclining to red, which is, perhaps, owing to their being extremely vascular. In particular parts of the body, the nerves come in contact with each other, and the bundles composing them are mutually interwoven to such a degree that they cannot be disjoined without violence. These communications are called plexuses, and are found particularly in the abdomen, behind the stomach, and in the region of the pit of the stomach, near the liver, mesentery, heart, etc. The final terminations of these nerves are various; particularly those which run to the organs of sense. In the auricular organ, for instance, the nerves terminate in a soft mass, like pap, surrounded with moisture; the optic nerve terminates in a medullary skin; the nerves of taste terminate in little *papillæ*; those of feeling, in the points of the fingers, and the surface of the skin in general; those belonging to the muscles are lost in the texture of the same, so that their termination cannot be correctly ascertained. All the nerves are embraced under the general head of the *nervous system*. This is most intimately connected with the brain and spinal marrow, which may be regarded as a prolongation of it.

The brain is the center from which, or to which, proceed all impressions communicated to the nerves. The substance of the nerves is the same medullary matter which constitutes the brain, resembling the white of an egg, and appearing, to the unassisted eye, as if composed of little balls. The central termination of all the nerves is in the brain and spinal marrow, where they branch out into the skin, or interior of the organs. The various isolated

and, in part, heterogeneous structures of which the body consists, which are mechanically joined by the cellular tissue, the membranes and ligaments, are united into one harmonious whole by means of the nerves. The vascular system connects them only so far as it supplies the blood required for their support and their operations ; but it is properly the nervous system that imparts to all their life, governs their operations, and establishes their sympathy and mutual action. This is effected by means of that portion of the nervous system which is diffused through the abdomen, forming many nets and plexuses, and constituting what is called *vegetative*, or *reproductive*, or *organic nervous system*, because the growth and support of the body are effected by it. Another part of the nervous system affords the means of consciousness and voluntary action. This is the *brain*, or *cerebral system*, which excites the nerves that put in action the muscles of voluntary motion, and those which supply sensibility to the organs of sense, and convey to the brain the impressions thence received.

The nerves which communicate with the organs of sense run in pairs : the first pair (olfactory nerve) to the nose, where it is spread over the surface of the nostrils, and forms the power of smell ; the second (optic nerve) to the eyes ; this is round, thick, and penetrates from behind the ball or globe of the eye, through a round plate of the firm coat of the ball containing many little apertures, and is spread out on the inner and concave surface of the globe into a thin coat called the *retina*, on which the images of external objects are formed ; the eighth pair (auditory nerves) are spread over the interior of the ear, and are sensible to the vibrations of the air. From the numerous ramifications of the ninth pair come the nerves of the tongue, which give rise to the sense of taste. The general sense of feeling is situated particularly in the skin, and peculiarly in the points of the fingers. This sense is produced by a variety of nerves diffused over the skin, and those parts which are most sensitive are supplied with the greatest quantity of nerves, which form entire series of contiguous nervous *papillæ* ; for instance, at the lips, the points of the fingers, etc. Thus the action of the nerves is reciprocal from without inwards, and from within outwards ; the first, because the impressions on the organs of sense are communicated, by the nerves, to the brain, and there form perceptions and feelings ; the second, because the voluntary motions

are produced by communications from the brains to the nerves, while the reproductive part of the nervous system quietly supports the whole machine, and, in a sound state of the body, is recognised only by the operation of the appetites, and by a general feeling of ease throughout the system ; but, in a diseased state, gives rise to general uneasiness and pain. The power of the nervous system has no fixed point, but is variable even in the same subject. In sleep, the activity of the cerebral system is impaired ; that of the reproductive system heightened ; therefore, in quiet sleep, the operations of the senses and voluntary motions cease, while the activity of the organs of respiration and circulation, of digestion, secretion, and nourishment, continues. From what has been said, it appears that the whole action of the body depends upon the nervous system.

E A R .

The **E A R** is the organ of hearing. It is situated at the side of the head, and is divided into external and internal ear. The *auricula*, or *pinna*, commonly called the *ear*, constitutes the external part. It is of a greater or less size, according to the individual. The pinna is formed of a fibrous cartilage, elastic and pliant. The skin which covers it is thin and dry. There are also seen, upon the different projections of the cartilaginous ear, certain muscular fibers, to which the name of *muscles* has been given. The pinna, receiving many vessels and nerves, is very sensible, and easily becomes red. It is fixed to the head by the cellular tissue, and by muscles, which are called, according to their positions, *anterior*, *superior*, or *posterior*. These muscles are much developed in many animals ; in man, they may be considered as simple vestiges.

The *meatus auditorius*, or auditory passage, extends from the concha to the membrane of the tympanum ; its length, variable according to age, is from ten to twelve lines in the adult ; it is narrower in the middle than at the ends ; it presents a slight curve above, and in front. Its external orifice is commonly covered

with hairs, like the entrance to the other cavities. The middle ear comprehends the cavity of the tympanum, the little bones which are contained in this cavity, the mastoid cells, the eustachian tube, etc. The tympanum is a cavity which separates the external, from the internal ear. Its form is that of a portion of a cylinder, but a little irregular. The external side presents the *membrana tympani*. This membrane is directed obliquely downward and inward; it is bent, very slender and transparent, covered on the outside by a continuation of the skin; on the inside, by the narrow membrane which covers the tympanum. Its tissue is dry, brittle, and has nothing analogous in the animal economy; there are neither fibers, vessels or nerves found in it. The cavity of the tympanum, and all the canals which end there, are covered with a very slender mucous membrane; this cavity, which is always full of air, contains, besides, four small bones (which form a chain from the *membrana tympani* to the *fenestra ovalis*,) where the base of the *stapes* is fixed. There are some little muscles, for the purpose of moving this osseous chain; of stretching and slackening the membranes to which it is attached; thus the internal muscle of the *malleus* draws it forward; bends the chain in this direction, and stretches the membrane; the anterior muscle produces the contrary effect. It is also supposed that the small muscle which is placed in the pyramid, and which is attached to the neck of the *stapes*, may give a slight tension to the chain, in drawing it towards itself.

The internal ear, or labyrinth, is composed by the cochlea, of the semicircular canals, and of the vestibule. The cochlea is a bony cavity, in form of a spiral, from which it has taken its name. This cavity is divided into two others, which are distinguished into external and internal. The partition which separates them, is a plate, set edgeways, and which, in its whole length, is partly bony, and partly membranous. The semicircular canals are three cylindrical cavities, bent into a semicircular form, two of which are disposed horizontally, and the others vertically. These canals terminate by their extremities in the vestibule. They contain bodies of a gray color, the extremities of which are terminated by swellings. The vestibule is the central cavity; the point of union for all the others. It communicates with the tympanum, the cochlea, the semicircular canals, and the internal meatus audi-

torius, by a great number of little openings, The cavities of the internal ear are entirely hollowed out of the hardest part of the temporal bone; they are covered with an extremely thin membrane, and are full of a very thin and limpid fluid; they contain, besides, the acoustic nerve. The internal ear and middle ear are traversed by several nervous threads; the presence of which is, perhaps, useful to hearing.

THE APPENDAGES OF THE HUMAN EYE.

THE appendages of the eye, says Dr. J. Bryan, are almost as important to sight, in the human family, as the eye itself. The eye-ball, placed in a socket called the *orbit*, is moved in various directions, by means of six muscles, four of which are straight, and taking their origin from the back part of the orbit, around the foramen through which the optic nerve enters, extend forward, and are inserted into the eye-ball, just back of the cornea. The position of these muscles is such, as to produce four movements of the eye, the superior one being inserted into the upper surface, the inferior one into the lower, and the remaining two, one each side, so that, by their contractions, they produce movements, first upwards, second downwards, third outwards, and fourth towards the nose, or inwards. The other two muscles are called the *oblique*, from their producing oblique motions of the eye; the larger one running through a little loop, just under the internal angle of the eye, takes its origin from the four straight ones, at the back part of the orbit, and, after going through the loop, extends backwards, and is inserted in the upper part of the eye. This muscle, in animal mechanics, is a complete example of a tackle or pulley. The other oblique muscle is much shorter, and takes its origin from the anterior or middle part of the orbit, and extending outwards, is inserted into the external side of the eye: when it contracts, it draws the eye obliquely inward and downward, producing, when two strong for its antagonist, *squinting*; to cure squinting, therefore, in children, we must strengthen the antagonist muscles, so that one shall not overpower the other: this is done,

of course, by bringing the weaker muscle or muscles into active exercise.

The whole eye-ball is enveloped in a soft cushion of fat, so that it is moved, in every direction, with the greatest facility. In studying the comparative anatomy of the eye, we are struck with the various and curious means resorted to, to give it motion; in some, it is placed, as it were, on the end of the arm, which is thrust out to reconnoiter; in others, (the spider for instance,) the number is multiplied, and each one is stationary, etc., etc.

The eye is kept moist and transparent by means of the lachrymal fluid; it is secreted by a gland situated under the external angle of each eye, that is called the *lachrymal gland*, and transmits the fluid, when secreted, over the eye through the small tubes, which open on the internal surface of the upper lid; it is further spread and made to moisten the whole anterior of the eye, by the motion of the lids; the lids are formed of skin, fatty matter, and a cartilage of gristly substance, called the *tarsal cartilage*. The edges of the lids are fringed by beautiful, irregular rows of hairs, which, in the upper lids, are turned upwards, and the lower ones downwards, so that, when the lids are closed, the convex surface of the hairs are brought together, but they do not intermix. This beautiful arrangement assists very much in protecting the eye from dust, perspiration, etc. The internal surface of the lids, and all the anterior parts of the eye, are covered by a very fine membrane, called *tunica conjunctiva*, which prevents extraneous matter from going farther than just under the lids, and generally under the upper one; this, when it is some light or smooth substance, is remedied by raising the upper lid, and drawing it over the lower one, the convex hairs of which, make an admirable brush to sweep the eye.

Between the union of the lids on the nasal side, there is a little projection, called *caruncular lachrymalis*. In some animals this is enlarged, and forms what is, in fact, a new eye-lid, called *membrana nictitans*. The motion of the lids is chiefly in the upper one, hence this has a distinct muscle of its own, which, taking its origin near the optic foramen, with the muscles of the eye-ball, is inserted into the substance of the lid, and is called the *levator palpebra*. Another secretory apparatus is composed of a series of small glands, which are named, in compliment to the anatomist

who first described them, *Merbomean*. When the eye-lids are inverted, these glands will be seen, in parallel rows, on the surface of the cartilages, and under the *conjunctiva*; each of them opens on the margin of the eye-lid by a separate duct. It is inflammation of one these small glands, which causes the common disease, *stye*. The secretions from these glands seem to increase at night, and in children, and those who have inflamed eyes, the lids are often glued together in the morning. From what has been said above, we are now prepared to understand the manner by which the eye is kept moist. When this moisture becomes redundant, it is carried off by the following means. On the edge of each groove, which, coming in opposition to its fellow, assists in forming a canal which extends from the outer to the inner angle of the eye, the fluid secreted by the lachrymal gland, and spread over the eye in the way above mentioned, is collected in this canal, and passes along it to the inner angle, where two small tubes take it up, (one in each,) and convey it to a third, called the *lachrymal sac*, which empties in the nose; hence, when an excess of tears is secreted, the nose is incommoded, and snuffling in children is the result.

The brow is designed to protect the eye by shading it, and otherwise. The hair in the brows does not grow straight out, like that of the head, nor upward and downward, as that of the lids, but those of each one grow outward. Much of the beauty and expression of the face depends on the size, color, and form of the brow. The Romans thought it a mark of comeliness that they should meet. This certainly gave them a more ferocious and war-like air. The Roman ladies painted their brows so as to meet, while the fair Greeks kept them separate, and formed them into a beautiful arch, gently terminating into nothing. The separation of the brow with an unfurrowed front, gives a calm and intelligent expression to the countenance. The storms of passion, the writhing of pain, etc., are first seen by a second person, in the knitting of the brow.

Knowing the structure of the eye, some of the diseases may be mentioned with propriety. The internal coat or retina sometimes becomes diseased, and the sight is lost, or nearly lost, before the patient or his friends are aware of it, there are so few outward signs, by which a common observer would recognize it. When

the lens becomes diseased or opaque, it must be extracted or cut up, and removed to another part of the eye, so that the natural powers of the system may carry it off. The corner is subject to inflammation, ulceration, and opacity, which, of course, when co-extensive, destroy vision. The conjunctiva, when inflamed, produces what, in ordinary language, is emphatically called *sore eyes*. It frequently becomes red from some slight causes, such as dust under the lids, cold, etc., etc. When the edges of the lids become inflamed, the tears do not follow their natural course; and instead of going through the lachrymal sac, flow over the cheek. Many persons inherit weak eyes from their parents, and are subject to an unpleasant overflow of tears, from slight causes; such persons frequently ruin their eyes, by trying every nostrum which they hear of, for relief, in vain; eye-water, eye-salve, ointment, etc., etc.

M U S C L E .

THE parts that are usually included under this name, consist of distinct portions of flesh, susceptible of contraction and relaxation, the motions of which, in a natural and healthy state, are subject to the will; and for this reason, they are called *voluntary* muscles. Besides these, there are other parts of the body that owe their power of contraction to their muscular fibers: thus the heart is a muscular texture, forming what is called a *hollow* muscle; and the stomach, intestines, etc., are enabled to act upon their contents, merely because they are supplied with muscular fibers: these are called *involuntary* muscles, because their motions are not dependent on the will. The muscles of respiration, being in some degree influenced by the will, are said to have a *mixed* motion.

The names by which the voluntary muscles are distinguished, are founded on their size, figure, situation, use, or the arrangement of their fibers, or their origin and insertion; but besides these particular distinctions, there are certain general ones, that require to be noticed. Thus, if the fibers of a muscle are placed parallel to

each other, in a straight direction, they form what anatomists term a *rectilinear* muscle; if the fibers cross and intersect each other, they constitute a *compound* muscle; when the fibers are disposed in the manner of rays, a *radiated* muscle; when they are placed obliquely with respect to the tendon, like the plume of a pen, a *penniform* muscle. Muscles that act in opposition to each other, are termed *antagonists*: thus, every extensor has a flexor for its antagonist, and *vice versa*. Muscles that concur in the same action, are termed *congeneres*. The muscles being attached to bones, the latter may be considered as levers, that are moved in different directions by the contraction of those organs. That end of the muscle which adheres to the most fixed part, is usually called the origin, and that which adheres to the more movable part, the insertion of the muscle. In almost every muscle, two kinds of fibers are distinguished: the one soft, of a red color, sensible and irritable, called the *fleshy* fibers; the other of a firmer texture, of a white, glistening color, insensible, without irritability, or the power of contracting, called the *tendinous* fibers. They are occasionally intermixed, but the fleshy fibers generally prevail in the belly, or middle part of the muscle, and the tendinous ones in the extremities. If these tendinous fibers are formed into a round, slender cord, they form what is called the *tendon* of the muscle; on the other hand, if they are spread into a broad, flat surface, they form what is called an *aponeurosis*. The fibers that compose the body of a muscle, are disposed in *fasciculi*, or bundles, which are easily distinguishable by the naked eye: but these fasciculi are divisible into still smaller ones; and these, again, are probably subdivisible *ad infinitum*. The most minute fiber we are able to trace, seems to be somewhat plaited; these plaits disappearing when the fiber is put on the stretch, seem evidently to be the effect of contraction, and have probably induced some writers to assert, that the muscular fiber is twisted, or spiral. A fiber is essentially composed of fibrine and osmazome, receives a great deal of blood, and, at last, one nervous filament.

By chymical analysis, muscle is found to consist chiefly of fibrine, with albumen, gelatine, extractive, phosphate of soda, phosphate of ammonia, phosphate and carbonate of lime, and sulphate of potassa. Each muscle is surrounded by a thin and delicate covering of cellular membrane, which dipping down into its

substance, incloses the most minute fibers we are able to trace, connecting them with each other, lubricating them by means of the fat which its cells contain, in more or less quantity in different subjects, and serving as a support to the blood-vessels, lymphatics, and nerves, which are distributed through the muscles. The muscles owe the red color which so particularly distinguishes their belly part, to an infinite number of arteries, which are everywhere dispersed through the whole of their reticular substance; for their fibers, after having been macerated in water, are (like all other parts of the body divested of their blood) found to be of a white color. The veins, for the most part, accompany the arteries, but are larger and more numerous. The lymphatics are more numerous, as might be expected from the great proportion of reticular substance which is everywhere found investing the muscular fibers. The nerves are distributed in such abundance to every muscle, that the muscles of the thumb alone receive a greater proportion of nervous influence than the largest viscera.

MUSCULAR MOTION.—Muscular motions are of three kinds,—namely: voluntary, involuntary, and mixed. The voluntary motions of muscles proceed from an exertion of the will: thus, the mind directs the arm to be raised or depressed, the knee to be bent, the tongue to be moved, etc. The involuntary motions of muscles are performed by organs, without any attention of the mind, as the contraction and dilatation of the heart, arteries, veins, absorbents, stomach, intestines, etc. The mixed motions are those which are in part under the control of the will, but which ordinarily act without our being conscious of their acting, and are perceived in the muscles of respiration, the intercostals, the abdominal muscles, and the diaphragm. When a muscle acts, it becomes shorter and thicker—both its origin and insertion are drawn towards the middle. The sphincter muscles are always in action, and so likewise are antagonist muscles, even when they seem at rest. When two antagonist muscles move with equal force, the part which they are designated to move, remains at rest; but if one of the antagonist muscles remains at rest, while the other acts, the part is moved towards the center of motion. When a muscle is divided, it contracts. If a muscle be stretched to a certain extent, it contracts, and endeavors to acquire its former dimensions, as the stretching cause is removed. When a muscle is wounded,

or otherwise irritated, it contracts independently of the will; this power is called irritability, and it is a property peculiar to, and inherent in the muscles. When a muscle is stimulated, either through the medium of the will, or any foreign body, it contracts, and the contraction is greater or less in proportion as the stimulus applied is greater or less. The contraction of muscles is different, according to the purpose to be served by their contraction: thus, the heart contracts with a jerk; the urinary bladder, slowly and uniformly. The intensity of muscular contraction—that is, the degree of power with which they draw themselves together—is regulated by the action of the brain: it is generally regulated by the will, according to certain limits, which are different in different individuals. A particular organization of the muscles, is favorable to the intensity of their contraction; this organization is, a considerable volume of fibers, strong, of a deep red, and striated transversely. The cerebral influence, and the disposition of the muscular tissue, are the two elements of the intensity of muscular contraction.

A very great cerebral energy is rarely found united in the same individual with that disposition of the muscular fibers which is necessary to produce intense contractions. These elements are almost always in an inverse ratio. When they are united, they produce astonishing effects. Perhaps this union existed in the *athlatæ* of antiquity; in our times, it is observed in certain mountebanks. The muscular power may be carried to a wonderful degree, by the action of the brain alone; we know the strength of an enraged person, of maniacs, and of persons in convulsions. The will governs the duration of the contraction; it cannot be carried beyond a certain length of time, however it may vary in different individuals. A feeling of weariness takes place, not very great at first, but which goes on increasing, until the muscle refuses contraction. To prevent this inconvenience, the motions of the body are so calculated, that the muscles act in succession, the duration of each being but short. Our not being able to rest long in the same position is thus explained, as an attitude which causes the contraction of a small number of muscles, can be preserved but a very short time. The feeling of fatigue, occasioned by muscular contraction, soon goes off, and in a short time the muscles recover the power of contracting. The quickness of the contractions are,

to a certain degree, subject to cerebral influence. We have a proof of this in our ordinary motions ; but beyond this degree, it depends evidently on habit.

In respect of the rapidity of motion ; there is an immense difference between that of a man, who touches a piano for the first time, and that which the same man produces, after several years' practice. There is, besides, a very great difference in persons, with regard to the quickness of contractions, either in ordinary motions, or those which depend on habit. As to the extent of the contractions, it is directed by the will : but it must necessarily depend on the length of the fibers ; long fibers having a greater extent of contractions than those that are short. The will has generally a great influence on the contraction of muscles ; it is not, however, indispensable ; in many circumstances, motion takes place, not only without participation of the will, but even contrary to it ; we find very striking examples of this, in the effects of habit, of the passions, and of diseases.

CARTILAGE.

CARTILAGE is a semi-pellucid substance, of a milk-white or pearly color, entering into the composition of several parts of the body. It holds a middle rank, in point of firmness, between bones or hard parts, and the softer constituents of the human frame. It appears, on a superficial examination, to be homogeneous in its texture ; for, when cut, the surface is uniform, and contains no visible cells, cavities nor pores, but resembles the section of a piece of glue. It possesses a very high degree of elasticity, which properly distinguishes it from all other parts of the body. Hence it enters into the composition of parts, whose functions require the combination of firmness with pliancy and flexibility ; the preservation of a certain external form, with the power of yielding to external force or pressure.

Anatomists divide cartilage into two kinds, the *temporary* and the *permanent*. The former are confined to the earlier stages of existence ; the latter commonly retain their cartilaginous structure

throughout life. The temporary cartilages are those in which the bones are formed. All the bones, except the teeth, are formed in a *nidus* of cartilage. The permanent cartilages are of various kinds. They compose the external ear, and external aperture of the nostrils and eyelids. The larynx is formed entirely of this substance; and the trachea, or windpipe, with its branches, is furnished with cartilaginous hoops, by which these tubes are kept permanently open, for the ready passage of the air to and from the lungs. The bodies of the vertebræ are joined by large masses of a peculiar substance, partaking of the properties and appearance of cartilage and ligament, which allow of the motions of these parts on each other, without weakening the support that is afforded to the upper parts of the body in general, and to the head in particular, by the vertebral column. These cartilages impart great elasticity to the spine, by which the effects of concussion, from jumping, from fall, etc., are weakened and destroyed, before they can be propagated to the head. When the body has been long in an erect position, the compression of these cartilages, by the superior parts, diminishes the height of the person. They recover their former length when freed from this pressure. Hence a person is taller when he rises in the morning, than after sustaining the fatigues of the day; and the difference has sometimes amounted to an inch. Cartilages are sometimes interposed between the articular surfaces of bones, where they fill up irregularities, that might otherwise impede the motions of the part, and increase the security of the joint, by adapting the articular surfaces to each other. These surfaces are, in every instance, covered by a thin crust of cartilage, having its surface most exquisitely polished, by which all friction in the motions of the joint is avoided.

BONE.

THE bones are the hardest and most solid parts of animals. They constitute the frame; serve as points of attachment to the muscles, and afford support to the softer solids. They are the instruments, as muscles are the organs of motion. In the *mammalia*,

birds, fish and reptiles, the whole system of bones, united by the vertebral column, is called the *skeleton*. In the fœtus, they are first a vascular, gelatinous substance, in different points of which, earthy matter is gradually deposited. This process is perceptible towards the end of the second month; and, at the time of maturity, the bone is completely formed. After birth, the bones become gradually more solid, and, in the temperate zone, reach their perfection in men between the ages of fifteen and twenty. From this age, until fifty, they change but slightly; after that period, they grow thinner, lighter, and more brittle. Those of the two first classes of animals are harder on their exterior than they are internally. Their material, except in the teeth, is nearly the same throughout. Their structure is vascular, and they are traversed by the blood-vessels, and the absorbents. They are hardest at the surface, which is formed by a firm membrane, called the *periosteum*; the internal parts are cellular, containing a substance called *marrow*. The use of the marrow is to prevent the too great dryness and brittleness of the bones.

Chimistry decomposes bone into gelatin, fat, cartilage, and earthy salts. A fresh bone boiled in water, or exposed to the action of an acid, gives out its gelatin. If boiled in water, on cooling the decoction, a jelly is formed, which makes a good portable soup. A pound of bone yields twice as much as the same quantity of fish. The earth of bones is obtained by calcination; that is, by exposing them to a red heat, by which they are deprived of the soft substances. That part of anatomy which treats of the bone, is called *osteology*.

SPINE.

SPINE, (from *spina*, thorn, so called, from the shape of the processes of the vertebræ,) in anatomy, the vertebral or spinal column, the *back-bone* in common language, is the articulated bony pillar at the back of the trunk, forming the foundation or basis of support and connection to all the other parts of the frame. It is placed perpendicularly in the body, supporting the head on its upper ex-

tremity, while the lower end rests on the pelvis. The bones of the chest, to which the upper extremities are attached, are fixed to its sides, while the *ossa innominata*, or the great bones to which the lower limbs are articulated, are immovably united to it below. It is the point of attachment and support in front for the viscera of the thorax and abdomen, and for the great trunks of the blood vessels. We may thus regard it as the central and most essential piece of the skeleton, as the center of motion for the head and limbs, and the basis of support for all the great internal organs. Again: the bones which compose it give attachment to the principal muscles moving the head, the shoulders, and the arms, to those which act on the trunk, and to some part of the abdominal muscles, and of those which move the lower limbs. Further, it constitutes a canal which receives and protects the spinal marrow, and gives issue to the various nerves proceeding from that organ to the trunk and limbs.

The importance of the spine is so great that it modifies all the details of the organization of the animals which possess it. It is formed of twenty-nine pieces of bones strongly articulated into each other, and placed in succession, from above, downwards. The twenty-four upper ones are called *vertebræ*.

Distortions of the spine are the unnatural inflections of the spine, which give a more or less deformed figure to the trunk, and even to the limbs; hence wry neck, high shoulders, hump back, uneven hips, lameness, etc., are very frequent among the higher classes of our time, particularly among the females; and, generally, owing to want of care or judgment in those who have charge of children, or to the injudicious habits of the persons afflicted, and frequently aggravated and made permanent by improper means used for remedying them. The beauty of the whole body depends chiefly upon the natural formation of the spine. This column of *vertebræ* ought not, permanently, to deviate from the straight line to the right or left; but it has, naturally, some slight curvatures forwards and backwards. In the region of the loins, it is bent a little forwards; in the region of the chest a little backwards; and at the neck, again, somewhat forward. This regular formation of the spine is produced by the character of the *vertebræ*, the cartilages which unite them, and the muscles of the back, which support and move them. If the *vertebræ* themselves suffer from disease, as, for in-

stance, in case of rickets, the spine is not capable of supporting the head and keeping the body straight ; it becomes curved, and, if remedies are not applied in season, this unnatural curvature increases daily, and permanent distortion at length takes place. If the cartilages and ligatures suffer relaxation, as in case of a debilitated state of the body, the spine cannot, after every motion, resume its proper position ; and it may easily happen that some vertebræ become partially dislocated, and thus a disposition to distortion takes place, because the part of the spine over these vertebræ is deprived of its proper support, and must incline to one side. The muscles of the back, situated on both sides of the spine, equal in number and form, and destined, not only to execute the manifold movements of the trunk, but, also, to maintain, by the equilibrium of their power, the straight direction of the spine, frequently occasions distortions by losing their vigor ; for the spine, in this case, wanting its natural support, inclines sideways or backwards. The same effect may be produced by too frequent, or too continued, use of one set of muscles in a particular way ; for the spine becomes, at last, permanently fixed in the posture which it has been compelled to assume during the exercise. This survey shows us the various causes of distortions, and the proper means for preventing them. The causes may be reduced to diseases and injudicious habits.

The diseases of children, which may occasion distortions of the spine, are chiefly scrofula and rickets, so often connected with it, and general debility. These diseases may be best prevented by the use of food easily digestible, by pure air, hard bed, not too warm, frequent exercise, great cleanliness, frequent bathing, washing, and rubbing the skin, and similar requisites of a good physical education. The muscles of the back are often debilitated by compelling children, particularly weakly ones, to sit up in a constrained posture, which distresses the spine, and produces a sinking and bending, in search of relief, or by allowing children too little free movement and exercise, and obliging them, continually, to sit still and read, the surest mode of producing physical and intellectual cripples. The use of corsets also contributes much to the weakness of the dorsal muscles, and, consequently, to distortion of the spine. If the shoulders are continually supported, artificially, by a corset, the dorsal muscles, destined by nature to keep the spine

straight, remain inactive, and lose their power; the body becomes unable to support itself without the corset, and a sinking and bending take place as soon as it is removed. If to this is added the continual command, perhaps accompanied by threats, to sit straight, which has become actually impossible to the child, its exertions result in nothing but a curvature of the spine, which is, therefore, so frequent in girls of the higher classes; but, in boys of the same families, who are neither tormented with corsets, nor admonished so repeatedly to sit straight, is much rarer. The second cause of distortions, injudicious habits, deserves particular attention, because much may be done to prevent them. The habit of many nurses to carry children always on the same arm, accustoms the child to incline always to one side, and to sleep in one position, from which a distortion of the spine naturally arises in the course of time. The bad position of the body in some amusements and occupations—for instance, the manner in which young people sit in writing, reading, drawing, sewing, embroidering, playing on the flute, violin, harp, and guitar; the habit of crossing the feet in standing, or of standing on one foot; the habit of lying crooked in bed; and even the habit of girls to spend a long time, in a constrained position, dressing their own hair, may occasion distortion of the spine. Every one-sided motion, often repeated, may produce a tendency to such distortion; and the tendency once existing, the evil increases every day. This distortion, besides disfiguring the body and unfitting the subject for certain associations, also tends to produce inflammation of the lungs, dropsy of the chest, pulmonary consumption, and apoplexy—a general disturbance of the health, and early death. With women, it often gives rise to painful labors, and sometimes makes a natural delivery impossible.

The proper means of guarding against distortion we have already suggested in the directions respecting food, air, exercise, and cleanliness; the prevention of ill habits on the part of nurses, and of the children themselves, and in the important rule not to compel a straight carriage of the body by the wearing of corsets, nor by the continual injunction to stand and sit straight, as both tend directly to produce the evil intended to be prevented. It is important to detect a distortion of the spine as early as possible. It is, therefore, the duty of mothers and governesses to examine

often the body of children. The child should be undressed and placed in such a way, (not lying down,) that the whole position may be as easy as possible. Then the vertebræ must be struck slightly with the hand to discover if there is a prominence or a sensation of pain in any place. The examiner should then proceed to the parts of the body on each side of the spine, which ought to be perfectly equal. The neck, the shoulders, and the hips, are to be looked at: if the latter are uneven, the hip-joints and feet must be also tried. The examiner should also see whether the breast bone is precisely in the middle of the breast, and whether it forms a straight line, whether the clavicles are uniform, whether the ribs lie even. With grown girls, the unevenness of the breasts often furnishes the earliest sign of distortion of the spine. These examinations ought to be made once or twice a week, and, in the case of girls, even after they have arrived at maturity, because the years immediately succeeding the period of puberty, are those in which distortions are most frequently manifested in the female sex, and because a cure can hardly be expected much after the twentieth year. Attention to distortion ought not to be delayed until a high shoulder or hip shows itself; these are only proofs of a distortion which has already long existed. If, however, any thing like distortion is perceived, do not resort to the means, so often recommended, of suspension by the arms, or use of plasters, which can avail nothing; and do not expect that the dancing-master can remedy the evil, which will only increase under his lessons. Assistance can be rendered only by a physician familiar with these deformities, and who has made himself acquainted with the general state of body of his patient by a careful examination. The cure must not be expected too soon, and the orders of the physician must be scrupulously obeyed. Too much reliance is not to be placed on machines.

JOINT.

JOINT, in general, denotes the juncture of two or more things. The joints of the human body are called, by anatomists, *articulations*.

The suppleness to which the joints may be brought, by long practice, from the time of infancy, is very surprising. Every common posture-master shows us a great deal of this ; but one of the most wonderful instances of it, was in a person of the name of Clark, and famous for it in London, where he was commonly known by the name of *Clark*, the *posture-master*. This man had found the way, by long practice, to distort many of the bones, of which nobody before had ever thought it possible to alter the position. He had such an absolute command of his muscles and joints, that he could almost disjoint his whole body ; so that he once imposed on the famous Mullens, by his distortion, in such a manner, that he refused to undertake his cure ; but, to the amazement of the physician, no sooner had he given over his patient, than he saw him restore himself to the figure and condition of a proper man, with no distortion about him.

CHYME.

CHYME. In animal economy, in the process of digestion, the food is subjected to a temperature usually above ninety degrees of Fahrenheit. It is mixed with the gastric juice ; a liquor secreted by the glands of the stomach, and is made to undergo a moderate and alternate pressure, by the contraction of the stomach itself. It is thus converted into a soft, uniform mass, of a grayish color, in which the previous texture or nature of the aliment can be no longer distinguished. The *chyme*, as is termed this pulpy mass, into which the food in the stomach is resolved, passes by the pylorus into the intestinal canal, where it is mixed with the pancreatic juice and the bile, and is still exposed to the same temperature and alternating pressure. The thinner parts of it are absorbed by the slender tubes termed the *lacteals*. The liquor thus absorbed, is of a white color ; it passes through the glands of the mesentery, and is at length conveyed by the thoracic duct into the blood. This part of the process is termed *chylification*, and the white liquor thus formed, *chyle*. It is an opaque, milky fluid, mild to the taste. By standing for some time, one part of it coagulates ; another por-

tion is coagulated by heat. The chyle, after mixing with the lymph conveyed by the absorbent vessels, is received into the blood, which has returned from the extreme vessels, before this passes to the heart. All traces of it are very soon lost in the blood, as it mixes perfectly with that fluid. It is probable, however, that its nature is not at once completely altered.

The blood passing from the heart, is conveyed to the lungs, where it circulates over a very extensive surface presented to the atmospheric air; with the intervention of a very thin membrane, which does not prevent their mutual action. During this circulation, the blood loses a considerable quantity of carbon: part of which, it is probable, is derived from the imperfectly assimilated chyle; as this, originating in part from vegetable matter, must contain carbon in larger proportion than even the blood itself.

LIVER.

A LARGE gland, which occupies a considerable portion of the cavity of the belly, and which secretes the bile. It is a single organ of an irregular shape, brownish red color, and, in general, is smaller, in proportion, as the individual is more healthy. It occupies the right *hypocondrium*, or space included by the false ribs, and a part of the epigastric region, and lies immediately under the diaphragm, (midriff,) above the stomach, the transverse colon, and right kidney; in front of the vertebral column, the *aorta*, and the inferior *vena cava*; and behind the cartilaginous edge of the chest. The right false ribs are on its right, and the spleen on its left. The superior surface is convex, and the inferior is irregularly convex and concave, which has given rise to the division into the right or large lobe, the small or inferior lobe, and the left lobe. The right extremity of the liver is lower than the left, and is the most bulky part of the organ. The pressure of the surrounding organs, and certain folds of the peritoneum, called its ligaments, which connect it with the diaphragm, retain the liver in its place, leaving it, at the same time, a considerable power of changing its relative position.

The organization of the liver is very complicated. Besides its peculiar tissue, or parenchyma, the texture of which is unknown, it receives a larger number of vessels than any other gland. A peculiar venous system, that of the *vena portarum*, is distributed in it. To this must be added, the ramifications of the hepatic artery and veins, the nerves which are small, the lymphatic vessels, the excretory tubes, and a peculiar tissue, enclosed by a double membrane, a serous or peritoneal, and cellular one. The excretory apparatus of the bile is composed of the hepatic duct, which, rising immediately from the liver, unites with the cystic duct, which terminates in the gall bladder. The choledochic duct is formed by the union of the two preceding, and terminates in the duodenum.

BILE.

A **YELLOWISH-GREEN** liquid substance, of a bitter taste. Man, and many animals have, on the inferior surface of the liver, a peculiar bladder, in which the bile, formed by the liver from the blood, is preserved. It consists of water, and several other substances. The water constitutes the greatest part, and keeps the other parts in a state of solution. The remaining ingredients are a yellow, very bitter, fusible resin, which contributes most to the taste of the bile; a small portion of natron; some mineral alkaline salts; some oxygen of iron; a small quantity of a yellowish substance, which is only partly dissolved in the natron; and a considerable portion of albumen. Thenard and Berzelius have done much to determine the ingredients of the bile.

Its principal use seems to be, to separate the excrement from the chyle, after both have been formed, and to produce the evacuation of the excrements from the body. It is probable that these substances would remain mixed together; and they would, perhaps, even be partially absorbed together, were it not for the bile, which seems to combine with the excrements, and, by this combination, to facilitate its separation from the chyle, and thus to prevent its absorption. Fourcroy supposes that the bile, as soon

as it is mixed with the contents of the intestinal canal, suffers a decomposition; that its alkali and saline ingredients combine with the chyle, and render it more liquid, while its albumen and resin combine with the excrementitious matters, and gradually render them less fluid. From the late experiments of Berzelius, on fæces, it cannot be doubted that the constituents of the bile are to be found in the excrementitious matter; so that the ingenious theory of Fourcroy is so far probable. The bile also stimulates the intestinal canal, and causes it to evacuate its contents sooner than it otherwise would do; for when there is a deficiency of bile, the body is constantly costive. Biliary calculi, or gall-stones, are sometimes found in the gall-bladders of men and animals. They are more rarely met with in the substances and body of the liver. Those that are found in the human subject consists, principally, of that peculiar substance called, by Fourcroy, *adipocire*. They are of a white, grayish-brown, or black color. The calculi found in the gall-bladders of quadrupeds, have been thought to consist almost entirely of inspissated bile; but, though much less complicated than the corresponding concretions in the human subject, they must contain something more than the inspissated fluid, since they are insoluble, both in alcohol and water.

B L O O D .

BLOOD is the red fluid contained in the blood-vessels of animal bodies. It is found in the mammalia, in birds, in reptiles, and in fishes. In the last two classes of animals, the temperature of the blood is much lower than in the former, for which reason they are distinguished by the name *cold-blooded*, while the others are termed *warm-blooded* animals. Insects and worms, instead of red blood, have a juice of a whitish color, which is called *white blood*. In the blood are two different substances, which are separated by coagulation—the serum, a fluid like the white of an egg, and a thick matter, to which the red color properly belongs, which is much heavier than the former, and is called the coagulum. The last may be divided again into two different parts; viz: into the

cruur, or that part of the blood which is intrinsically red and coagulable, and lymph, or fibrine, to which the coagulation of the blood must be ascribed. The fibrine, in young animals, is much whiter than in older and stronger ones. The blood of the latter contains much more azote than that of the former. If the nourishment of animals be changed, we also find an alteration in the constituent parts of their blood. It is also changed by diseases. In animals that are hunted to death, or killed by lightning, the blood does not coagulate. The blood of birds is more highly colored, and warmer, than that of viviparous animals, and coagulates more easily in the air. That of reptiles, and fishes, coagulates with difficulty. Aided by magnifying glasses of a strong power, one may observe, in examining the blood of the living animal, or in blood which is newly drawn, that it consists, especially the cruor, of little globular bubbles, the globules of the blood, as they are called, the diameter of which amounts to about the three hundredth part of a line. In blood that has been drawn some time, although this time may be very short, they are not to be discovered. They are the effect of the life that pervades the blood. The more robust and healthy an animal is, the more globules are perceived. They show, as it were, the transition from the formless liquid to the original form of the first organized matter.

The blood is of the greatest importance to the life of an animal, and may be considered as the source of life. As long as the body is living, the blood is in perpetual motion. When it is taken out of the body, a remarkable change soon follows: it begins to coagulate, and then undergoes, first an acetous, and, after a few days, a putrid fermentation. All the blood takes its origin from the chyle, and deposits, by degrees, the nourishing particles requisite to the preservation and growth of the body, by a multitude of vessels adapted thereto. This is done while it is passing from the heart into the remotest parts of the body, and from thence back. The circulation of the blood is, as it were, the principle, and first condition of life. In its absence, except in cases of fainting, suffocation, etc., life ceases. The heart, the center of the circulation of the blood, has a two-fold motion, of contraction and dilatation, which constantly alternate. With the heart, two kinds of vessels are connected—the arteries, and the veins. The circulation of the blood proceeds with an astonishing rapidity: did it

flow at an equal rate in a straight line, it would run, in the space of one minute, through 149 feet. This swiftness, however, exists only in the larger vessels near the heart; the farther the blood recedes from the heart, the slower its motion becomes. In a grown up person, in good health, we may reckon the mass of blood at from twenty-four to thirty pounds.

BLOOD-VESSELS are the tubes or vessels in which the blood circulates. They are divided into two classes,—arteries, and veins,—which have two points of union, or connection: the first, in the heart, from which they both originate; and the other in the minute vessels, or net-work, in which they terminate. The arteries arise from the heart, and convey the blood to all parts of the body; the veins return it to the heart. The arteries distribute throughout the body a pure, red blood, for the purpose of nourishment; while the veins return to the heart a dark-colored blood, more or less loaded with impurities, and deprived of some of its valuable properties. But this is not returned again to the body in the same state. For the heart is wisely divided into two portions, or sides, a right and left, one of which receives the impure blood from the veins, and sends it to the lungs, to be defecated and freshly supplied with oxygen, or vital air; while the other receives the pure red blood from the lungs, and circulates it anew through the arteries. The arteries arise from the left ventricle of the heart, by one large trunk, nearly an inch in diameter, which is gradually subdivided into smaller ones, as it proceeds towards the limbs, till they terminate, at last, in vessels so small as to be almost invisible, and in a fine net-work of cells, extending through the whole body, into which the blood is poured out, and nutrition, or the increase of the body, takes place, and from which the residue is taken up by the small veins, to be returned to the heart.

The arteries and veins are widely different in their structure, as well as their uses. The former are composed of very strong, firm, elastic coats, or membranes, which are four in number. The external covering, and the internal lining of the arteries, although belonging to different classes of membranes, are both very thin and soft. The second coat is very thick, tough, and elastic, being that which chiefly gives their peculiar appearance to the arteries. The third is formed of fibers, apparently muscular, arranged in circular rings around the tube of the vessels. It is well known

that the pulse of the heart is felt in the arteries alone, although, in the bleeding of a vein, we sometimes see the blood start as if in unison with the beating of the heart. The pulse is produced by the wave, or stream of blood, which is driven by the heart through the arteries, distending, and slightly elevating them; after which they instantly contract, from their elasticity, and thus force the blood into the smaller vessels. The pulse varies in its character, with the general state of the health. When arteries are cut, or wounded, the firmness of their coats prevents their closing; and hence arises the fatal nature of wounds of large vessels, which will remain open till they are tied up, or till death is produced.

The veins commence in small capillary tubes, in every part of the body, and by their gradual union, form large trunks, till they at last terminate in two, which pour their contents into the heart. Their structure is much less firm than that of the arteries. They are very thin and soft, consisting of only two thin coats, or membranes. The inner, or lining membrane, is frequently doubled into folds, forming valves, which nearly close the passage in the veins, and thus give very material support to the blood as it is moving up in them towards the heart. These valves are not found in the veins of the bowels, the lungs, or the head. The number of the veins is much greater than that of the arteries, an artery being often accompanied by two veins. They differ, also, in this: that while the arteries are deeply seated in the flesh, to guard them from injury, the veins are very frequently superficial, and covered only by the skin. The veins, it is well known, are the vessels commonly opened in blood-letting, although, in cases which render it necessary, a small artery is sometimes divided. There are two portions of the venous system, which do not correspond exactly with our general description; these are, the veins of the bowels and of the lungs. The former circulate their blood through the liver, before it returns to the heart; and the latter, the pulmonary veins, convey red blood from the lungs to the heart. It should also be mentioned, that the large vein, which brings back the blood from the lower parts of the body, receives from the lymphatic and lacteal vessels the chyle from the bowels, which supplies the waste of the blood and nourishes the body, and the serous and other watery fluids which are taken up by the absorbents in all parts of the body.

KIDNEY.

KIDNEY, one of the abdominal viscera, consisting of two voluminous glands, the office of which is to secrete the urine from the blood. One of these glands lie on the right, and the other on the left of the vertebral column, or back-bone. They are both contained in a fatty, cellular substance, (suet,) and are situated behind the *peritonæum*, and before the *diaphragm* and the *quadratus lumborum*. They are penetrated with blood-vessels and nerves; are of a reddish color, and more consistent than the other glands. An external cellular membrane, and an internal fibrous membrane envelope each kidney, which is divided into the cortical substance, and the tubulous substance. The former constitutes the exterior part of the kidney, and extends between the cones formed by the latter. It secretes the urine; that is, separates its elements from the blood, and combines them, while the latter pours it into the pelvis, a membranous bag situated at the middle of the kidney, from which it is conveyed by the ureter, a membranous tube, into the bladder. From the bladder, the urine is evacuated by the urethra, a membranous canal passing through the penis.

The kidneys are not mere filters or sieves, as was anciently supposed, and as some modern physiologists have maintained; they are true glands; that is, a vascular nervous apparatus, having a particular action, for the production of a particular fluid. The kidneys are subject to an inflammation, called *nephritis*, and to a nervous pain, called *nephralgia*. The kidney sometimes contains stones, gravel or sand in the pelvis, and also in the cortical and tubulous substance, which occasion the most excruciating pain.

Diseases of the kidneys are generally occasioned by excess in eating and drinking, particularly in subjects addicted to venery, or accustomed to violent riding, or much walking. Temperance, vegetable diet, warm bathing, abstinence from equitation, etc., are preventives.

SPLEEN.

SPLEEN, or MILT: a spongy viscus, varying much in form and size, situated on the left side, between the eleventh and twelfth false ribs, and covered with a simple, firm membrane, arising from the peritonæum. It is of an oval form, and about one-fifth smaller than the liver. Its upper surface is connected with the diaphragm, and its interior with the stomach. It is convex towards the ribs, and concave internally, and of a livid color. The splenic artery is very large, in proportion to the size of the organ, and is divided into numerous small branches, penetrating the substance of the spleen. The splenic vein is larger than the artery, in the proportion of five to one; and, by its junction with the mesenteric, constitutes the trunk of the *vena portæ*, which carries the blood into the substance of the liver. From this splenic artery, several branches called *vasa brevia*, go off to the stomach, which they supply with blood.

The uses of the spleen are entirely unknown; but they appear to have some connection with the process of digestion. The spleen is subject to inflammation, (*splentis*,) and, as often happens after agues, the inflammation becomes chronic; the tumor is then commonly called the *ague cake*, though that name is also given to a tumor of the liver, succeeding intermittents. It is also, in some cases, too feeble in its action, and then the digestion suffers. Spleen is also sometimes used to signify the hypochondriasis.

INTESTINE.

INTESTINE, (*intestinum*, from *intus*, within.) The convoluted membranous tube, that extends from the stomach to the anus, receives the ingested food, retains it a certain time, mixes with it the bile and pancreatic juice, propels the chyle into the lacteals, and covers the fœces with mucus, is so called.

The intestines are situated in the cavity of the abdomen, and

are divided into the small and large, which have, besides their size, other circumstances of distinction. The small intestines are supplied internally with folds, called *valvulæ conniventes*, and have no bands on their external surface. The large intestines have no folds internally; are supplied externally with three strong muscular bands, which run parallel upon the surface, and give the intestines a saccated appearance; they have also small fatty appendages, called *appendiculæ epiploicæ*. The first portion of the intestinal tube, for about the extent of twelve fingers' breadth, is called the *duodenum*; it lies in the epigastric region, makes three turnings, and, between the first and second flexure, receives, by a common opening, the pancreatic duct, and the ductus communis choledochus. It is in this portion of the intestines, that chylyfication is chiefly performed. The remaining portion of the small intestines is distinguished by an imaginary division into the *jejunum* and *ileum*. The jejunum, which commences where the duodenum ends, is situated in the umbilical region, and is mostly found empty; hence its name: it is everywhere covered with red vessels, and, about an hour and a half after a meal, with distended lacteals. The ileum occupies the hypogastric region and the pelvis, is of a more pallid color than the former, and terminates by a transverse opening into the large intestines, which is called the valve of the ileum, valve of the cæcum, or the valve of the tulipius. The beginning of the large intestines is firmly tied down in the right iliac region, and, for the extent of about four fingers' breadth, is called the *cæcum*, having adhering to it a worm-like process, called the *processus cæci vermiformis*, or *appendicula cæci vermiformis*. The great intestine then takes the name of *colon*, ascends towards the liver, passes across the abdomen, under the stomach to the left side, where it is contorted like the letter S, and descends to the pelvis; hence it is divided, in this course, into the ascending portion, the transverse arch, and the sigmoid flexure. When it has reached the pelvis, it is called the *rectum*, from whence it proceeds, in a straight line, to the anus.

The intestinal canal is composed of three membranes, or coats; a common one from the peritoneum, a muscular coat, and a villous coat, the *villi* being formed of the fine terminations of the arteries and nerves, and the origins of lacteals and lymphatics. The intestines are connected to the body by the mesentery; the

duodenum has also a peculiar connecting cellular substance, as have likewise the colon and rectum, by whose means the former is firmly accreted to the back, the colon to the kidneys, and the latter to the os coccygis, and, in women, to the vagina. The remaining portion of the tube is loose in the cavity of the abdomen. The arteries of this canal are branches of the *superior* and *inferior* mesenteric, and the duodenal. The veins evacuate their blood into the vena portæ. The nerves are branches of the eight pair and intercostals. The lacteal vessels, which originate principally from the jejunum, proceed to the glands in the mesentery.

DIAPHRAGM.

DIAPHRAGM, in anatomy, a large, robust, muscular membrane or skin, placed transversely in the trunk, and dividing the chest from the belly. In its natural situation, the diaphragm is convex on the upper side towards the breast, and concave on its lower side towards the belly; therefore, when its fibers swell and contract, it must become plain on each side; and consequently, the cavity of the breast is enlarged, to give liberty to the lungs to receive air in inspiration; and the stomach and intestines are pressed for the distribution of their contents; hence the use of this muscle is very considerable.

It is the principal agent in respiration, particularly in inspiration; for, when it is in action, the cavity of the chest is enlarged, particularly at the sides, where the lungs are chiefly situated; and, as the lungs must always be contiguous to the inside of the chest and upper side of the diaphragm, the air rushes into them, in order to fill up the increased space. In expiration it is relaxed, and pushed up by the pressure of the abdominal muscles upon the viscera of the abdomen; and, at the same time that they press it upwards, they pull down the ribs, by which the cavity of the chest is diminished, and the air suddenly pushed out of the lungs.

PELVIS.

PELVIS ; the lower part of the cavity of the abdomen in men and animals. In the infant, it consists of many pieces ; but in the adult it is composed of four bones, so united, as not to admit of motion on each other, and is open above and below ; wide at its upper part, and contracted at its inferior aperture. The outside is roundish : the upper part broader ; the lower, narrower. The whole pelvis is movable upon the thighs ; the hip-bone is therefore raised, in walking, on that side which is supported by the thigh ; on the contrary, it sinks immediately with the trunk on that side upon which the foot is raised and advanced. The walls of the cavity of the pelvis, are even, smooth, and covered with flesh. A line drawn through the middle of the pelvis, divides it into two parts, one of which is called the *upper* or *larger*, and the other, the *lower* or *smaller* one. In well-formed persons of a middle size, the diameter of the great pelvis, or the distance of one hip-bone to the other, is in the male sex about nine, in the female about eleven inches. The superior size of the female pelvis, is intended to assist gestation and parturition. It is evident that the pelvis of men must have, on account of their erect figure, a different direction from that of animals. The pelvis contains a part of the small intestines, the rectum, the bladder, the internal organs of generation, the large nerves and blood-vessels of the lower limbs, and many absorbent vessels, with their glands. Its office is to give steadiness to the trunk ; to connect it with the lower extremities, by a safe and firm junction ; to form the center of all the motions of the body, and to give support to the gravid uterus.

UTERUS.

UTERUS, (the *womb* :) the organ in which the embryo is received from the ovary, to which it becomes adherent so as to receive the materials of its growth, and in which it is restrained, for a

longer or a shorter time, in various species, exist until its expulsion in the process of parturition.

A proper uterus belongs only to the mammalia: oviparous generation, under various modifications, if found in the other classes; and the female organ is, therefore, reduced to a mere canal (oviduct) for the transmission of the ova. In the human female, the uterus is a spongy receptacle, resembling a compressed pear, situated in the cavity of the pelvis, above the vagina, and between the urinary bladder and rectum. Its form resembles that of an oblong pear flattened, with the depressed sides placed towards the ossa pubis and sacrum; but, in the impregnated state, it becomes more oval according to the degree of its distension. For the convenience of description, and for some practical purposes, the uterus is distinguished into three parts: the upper part called the *fundus*; the lower, the *cervix*; the space below them, the *body*. The uterus is about three inches in length, about two in breadth, at the fundus, and one at the cervix. Its thickness is different at the fundus and cervix, being, at the former, usually rather less than half an inch, and, at the latter, somewhat more; and this thickness is preserved throughout pregnancy, chiefly by the enlargement of the veins and lymphatics, there being a smaller size of the arteries; but there is so great a variety, in size and dimensions, of the uterus in different women, independent of the state of virginity, marriage, or pregnancy, as to prevent any very accurate mensuration. The internal surface of the uterus is corrugated in a beautiful manner; but the rugae or wrinkles, which are longitudinal, lessen as they advance into the uterus, the fundus of which is smooth. In the intervals between the rugae are small orifices like those in the vagina, which discharge a mucus, serving, besides, other purposes, that of closing the os uteri very curiously and perfectly during pregnancy. The substance of uterus, which is very firm, is composed of arteries, veins, lymphatics, nerves, and muscular fibers, curiously interwoven and connected together by cellular membranes. The use of the womb is for menstruation, conception, nutrition of the fœtus, and parturition. It is liable to many diseases, the principal of which are retroversion and falling down, hydatids, dropsy of the uterus, moles, polypus, ulceration, cancer, etc.

EMBRYO.

EMBRYO ; the first rudiments of the animal in the womb, before the several members are distinctly formed, after which it is called the fœtus. The time necessary to produce this is different in different species. The human embryo is visible in three weeks : at the end of four, a pulsation is perceptible, which is known to be the beating of the heart. It is now about the size of an ant or fly, and retains its transparency, which, however, gradually diminishes, and, at the end of two months, disappears ; the eyes, nose, mouth, ears, and all the members, are distinguishable ; it is as large as a bee. In three months, every thing becomes more distinct ; the sex becomes evident, and the fœtus grows until it is ushered into the world as a child.

Ovary.

THE ovaria are two flat oval bodies, about one inch in length, and rather more than half in breadth and thickness, suspended in the broad ligaments about the distance of one inch from the uterus behind, and a little below the fallopian tubes. They include a number of vesicles or ova, to the amount of twelve to twenty, of different sizes, joined to the internal surface of the ovaria by cellular threads or pedicles, and contain a fluid which has the appearance of thin lymph. The ovaria prepare whatever the female supplies towards the formation of the fœtus : this is proved by the operation of spaying, which consists in the extirpation of the ovaria ; after which the animal not only loses the power of conceiving, but desire is forever extinguished. These vesicles have been generally regarded as little eggs which detach themselves from the ovary after fecundation, and are carried into the cavity of the womb by the fallopian tubes.

PART IV.

MISCELLANEOUS.

CHAP. I.

C H I M I S T R Y.

By this name, the etymology of which is uncertain, we understand the science which teaches the nature of bodies, or rather the mutual agencies of the elements whereof they are composed, with a view to determine the nature, proportions, and mode of combination of these elements, in all bodies. *Natural Philosophy*, or *physics*, examines the reciprocal influence of matter, in masses. *Chimistry* treats of the mutual action of the integrant parts. In the former, the phenomena are produced by the general attraction or repulsion of bodies ; in the latter, by minute combination or decomposition. With our present knowledge of matter, and its laws, we cannot separate physics entirely from chimistry : one science cannot be studied without the other. Those artisans who first discovered the means of melting, combining and moulding metals ; those physicians who first extracted vegetable substances from plants, and observed their properties, were the first chimists. Instead, however, of observing a philosophical method in their examinations ; instead of passing from what was known, to what was unknown, early inquirers suffered themselves to be led astray by astrological dreams, the fables of the philoso-

pher's stone, and a hundred other absurdities. Until the year 1650, we find little worthy of notice in the history of chemistry. Rhazis, Roger Bacon, Arnaud de Villeneuve, Basilius Valentin, Paracelsus, Agricola, etc., observed some of the properties of iron, quicksilver, antimony, ammoniac and saltpetre. They discovered sulphuric, nitric, and other acids; the mode of rectifying spirits; preparing opium, jalap, etc., and of purifying the alkalies. Glauber was distinguished for the accuracy of his observations. He endeavored to improve certain instruments; advised operators not to throw away, as useless, any residuum in performing experiments; discovered the salt which is called, from him, *Glauber's salts*, etc.

Such isolated discoveries, however, could not form a complete science. Stahl appeared, and, although his theory was unsatisfactory and entirely gratuitous; and, as later observations have proved, erroneous; yet he laid the foundations of a regular science. He was himself much indebted to the celebrated Becher, whose views he corrected and expanded. He was sensible that the greater part of chemical phenomena might depend on a general cause, or, at least, on a few general principles, to which all combinations must necessarily be referred. He supposed that bodies contained a combustible element, which inflammable bodies lost by being burned, and which they could regain from other bodies more inflammable. This element he called *phlogiston*. The establishing of a hypothesis, which connected almost all phenomena with each other, was an important step. Boerhaave adopted Stahl's system, and contributed much to its general diffusion. He is the founder of philosophical chemistry, which he enriched with numerous experiments respecting fire, the caloric of light, etc. Although the principles on which these philosophers proceeded were false, yet the science was much advanced by their labors. It was reserved for Black, Priestley, Cavendish and Lavoisier, to overturn Stahl's system, and substitute the pneumatic, or antiphlogistic theory, the best history of which is to be found in Fourcroy's *Philosophie Chimique*, and his *Système des Connoissances Chimiques*.

As soon as the composition of the atmospheric air was known, it was observed that combustible bodies, burning in contact with it, instead of losing one of their elements, absorbed one of the

component parts of the atmosphere, and were thus increased in weight. This component part has received the name of *oxygen*, because many of the combustible bodies are changed by its absorption into acids. Oxygen now took the place of phlogiston, and explained the difficulties which beset the phlogistic theory. Light and unity were introduced into chemistry by the new technical nomenclature adopted in 1787, through the aid of which all the individual facts are easily retained in the memory, since the name of each body is expressive either of its composition or of its characteristic property. Twelve or fifteen terms have been found sufficient for creating a methodical language, in which there is no inexpressive term, and which, by changing the final syllables of certain names, indicates the change which takes place in the composition of bodies. Lavoiseur, Fourcroy, Guyton de Morveau, and Berthollet, were the authors of this felicitous innovation. The chemical terminology admits of nothing arbitrary, and is adapted not only to express phenomena now known, but also any which may be hereafter discovered. It furnishes the first example of a systematic and analytic language.

The commencement of the nineteenth century forms a brilliant era in the progress of chemistry. The galvanic apparatus of Volta presented to the experimenter an agent unequalled in the variety, extent, and energy of its action upon common matter. With this apparatus, Sir Humphrey Davy commenced a series of researches, which resulted in a greater modification of the science than it had ever before experienced. He proved that the fixed alkalies were composed of oxygen with metallic bases, and thus led the way to the discovery of an analogous constitution in the alkaline earths. To the same individual the science is principally indebted for the establishment of the simple nature of chlorine, and for the investigation of iodine. His researches concerning the nature of flame, resulting as they did in the invention of the miner's safety-lamp, afforded to mankind a new demonstration of the utility of philosophy in contributing to the improvement of the arts of life. But that department of chemistry, which has of late been most successfully investigated, relates to the definite proportions in which bodies unite to form the various chemical compounds. To establish the conclusions which have been arrived at, a multitude of exact analyses were requisite. These were accomplished princi-

pally through the labors of Vauquelin, Gay Lussac, Thenard, Berzelius, and Thompson; and have terminated in the establishment of the general truth, that when bodies combine chimically and intimately with each other, they combine in determinate quantities; and that, when one body unites with another in more than one proportion, the ratio of the increase may be expressed by some simple multiple of the first proportion. Upon this general fact, Doctor Wollaston constructed the logametric scale of chimical equivalents—an invention which has contributed, in an eminent degree, to render our knowledge of the constitution of compounds precise, by introducing the sure basis of arithmetical relations, which, when fixed with accuracy, are not susceptible of change. The doctrine of definite proportions may, therefore, be regarded as having communicated to the principles of chimistry that certainty which has long been considered as peculiar to the mathematical sciences; and it is in the development of these important relations, that the advancement of the science has been most conspicuous. Among the still more recent improvements in chimistry, may be cited the discovery of Dobereinere, relating to the power of platinum in effecting the combination of oxygen and hydrogen; the researches of Faraday, in which many of the gases have been reduced to the liquid form; the discovery of new compounds of carbon and hydrogen, and the singular fact, which they exhibit, of different combinations being established in the same proportions; the elucidation of the new compounds of chlorine with carbon; of the peroxide of chlorine; the hydriodide of carbon; the perchloric, iodous, fulminic, and other acids; the discovery of the real bases of silex and zircon, and that of the new principle, brome: add to these, that our knowledge of light and electricity has been greatly enlarged, and that the phenomena of electro-magnetism are altogether new, and it becomes strikingly obvious that chimistry is still a progressive science. “Nor can any limits be placed to the extent of its investigations. Its analysis is indefinite; its completion will have been attained only when the real elements of bodies shall have been detected, and all their modifications traced: but how remote this may be from its present state, we cannot judge. Nor can we, from our present knowledge, form any just conception of the stages of discovery through which it has yet to pass.”

Chimistry has two ways of becoming acquainted with the internal structure of bodies, *analysis* and *synthesis*. By the former, it separates the component parts of a compound body; by the latter, it combines the separated element, so as to form anew the decomposed body, and to prove the correctness of the former process. These methods depend on a complete knowledge of the two powers, by which all bodies in nature are set in motion, viz., *attraction* and *repulsion*. Attempts have been made to distinguish the attraction of elementary particles from planetary attraction—the former being designated a chemical *affinity*. But nature has only one controlling principle of attraction. The alternate play of attraction and repulsion, produces a great number of sensible phenomena, and a multitude of combinations, which change the nature and properties of bodies. The study of these phenomena, and the knowledge of these combinations, appertain to the department of chimistry. The history of a body must always precede its analysis. The mere examination of its form, its color, its weight, and the place where it was found, etc., is often sufficient, by a comparison, to lead to a knowledge of its chemical properties.

There is no science more extensive than chimistry, nor is it possible for one person to embrace it in its whole compass. To facilitate its study, it is considered in different points of view, and thrown into divisions and subdivisions, so that a person may devote himself to one department of it, although the method of observing, analyzing, and combining is the same in all; and although all the phenomena must be explained by the general theory, and referred to certain laws, of which a previous knowledge is requisite. These laws constitute what is called *philosophical* chimistry, which explains what is meant by the affinity of aggregation or cohesion, by the affinity of composition, or chemical affinity. It treats of the phenomena of solution, saturation, crystalization, ebullition, fusion, neutralization. Chemical processes, by changing or modifying the properties of bodies, suggest to the observer important considerations on the changes of form, density, and temperature. Philosophical chimistry weighs these considerations. It shows, further, that affinity may be exerted, 1st, between two simple bodies; 2d, between a simple and a compound one; 3d, between compound bodies; and, establishing the princi-

ple, that the same body has not the same affinity for all others, but attracts them unequally, it shows us the laws which determine this preference, and the circumstances which modify it; such as cohesion, mass, insolubility, elasticity, and temperature. It measures the degree of affinity, whether of simple or compound bodies. It observes the circumstances which aid or obstruct the play of attraction, and shows that two bodies will not act upon each other, unless one of them, at least, is in a fluid state; that bodies, even in a state of solution, act upon each other only at imperceptible distances; that two bodies which have no perceptible affinity, may be made to combine, by the interposition of a third; and, finally, that the peculiar properties of bodies are destroyed by their combination, and that the compound possesses continually new properties. Proceeding from these principles to the examination of bodies themselves, philosophical chemistry considers the effects of light, heat and electricity; the nature of the simple and compound inflammable bodies; of air and water; the composition and decomposition of acids; the nature and properties of the salts; their relation to the acids; the calcination, solution, and alloying of metals; the composition and nature of plants; the characteristics of the immediate elements of vegetable substances; the phenomena of animalization; the properties of animal compound; and the decay of organic substances. This is the sphere of philosophical chemistry, while it confines itself to general views.

According to the application of these general views, chemistry is divided into seven or eight branches, which we have yet briefly to survey. The study of the great phenomena which are observed in the atmosphere, and which are called *meteors*, constitutes *meteorological* chemistry. This explains the formation of the clouds, rain, mist, snow, water-spouts; the state of the atmosphere in relation to the hygrometer, barometer, and thermometer; the nature of the aurora borealis, and meteoric stones; in short, all the chemical processes going on above the surface of the earth.

GEOLOGICAL chemistry treats principally of great combinations of nature which produce volcanoes, veins of metals, beds of mineral coal, basalt, mineral waters, the enormous masses of salt and lime, the saltpetre in the bed of the Indies, the natron of the lakes of Egypt, the borax of the lakes of Thibet. The geological chi-

mist endeavors to discover and explain the causes of deluges, earthquakes, the decrease of the waters on the globe, the influence of climate on the color of animals and plants, on the smell of flowers and the tastes of fruits. In these general views, he needs the aid of natural philosophy and physic.

Chimistry, in its application to natural history, is divided in the same manner. There is a chimistry of the mineral kingdom which comprises metallurgy and assaying, and the examinations of all inorganic substances, as stones, salts, metals, bitumen, waters, a chimistry of the vegetable kingdom which analyzes plants and their immediate products; and a chimistry of the animal kingdom, which studies all substances derived from living or dead animals. This last is subdivided into *physiological* chimistry, which considers the changes produced in animal substances by the operation of life; *pathological* chimistry, which traces the changes produced by disease or organic defects; *therapeutic* or *pharmaceutic* chimistry, which traces the nature and preparation of medicines, shows the means of preserving them, and exposes the pretensions of empirics; *hygetic* chimistry, which acquaints us with the means of constructing and arranging our habitations so as to render them healthy, of examining the air which we must breathe in them, guarding against contagious diseases, choosing wholesome food, discovering the influence of occupation, fashion, and custom, on the health.

AGRICULTURAL chimistry treats of the nature of plants and soils, and the laws of production. Sir Humphrey Davy first gave it the character of a science. It treats: first, of the general powers of matter which have any influence on vegetation, of gravity, cohesion, chemical affinity, heat, light, electricity, the elements of matter, especially such as are found in vegetables, and the laws of their composition and arrangements; second, of the organization of plants—their structure, the chemical composition of their organs, and the substance found in them, etc.; third, of soils; fourth, of the nature of manure.

Chimistry, finally, exerts an influence on the economy of domestic life, and on the arts. It simplifies and regulates the daily offices of the house-keeper; renders our dwellings healthy, warm, light; assists us in preparing clothing, food, drink, etc.: it teaches the best way of making bread; preparing and purifying oils; of

constructing bake-houses, ovens, and hearths; of bleaching and washing all kinds of stuff; of producing artificial cold, etc. The application of chemistry to the arts and manufactures is, however, still more important and extensive. Here its aim is to discover, improve, extend, perfect, and simplify the processes by which the objects to be prepared may be adapted to our wants.

We close our remarks with the observation that a knowledge of chemistry may frequently be useful in judicial proceedings by bringing crime to light in cases of poisoning, counterfeiting coins, and written documents, etc.

CHIMICAL CLASSIFICATION AND NOMENCLATURE.—The chemist finds a small number of bodies, from which only one kind of matter can be obtained, in the present state of his knowledge, and by the instruments and agents which he now has at his disposal. On the other hand, there is a large number of bodies from which he obtains several kinds of matter. The former, he calls *elementary* or *simple bodies*; the latter, *compound bodies*. The number of simple bodies now known is fifty-three; that of the compound bodies is much greater, and might, at first, appear to be infinite, since not only a difference of elements, but even a difference of the proportions in which they are combined, makes an essential difference in the properties of the compound. It is, however, much less than would be supposed, and even less than the number of possible combinations of simple bodies. Twelve of the simple bodies are oxygen, iodine, chlorine, bromine, fluorine, hydrogen, boron, carbon, phosphorus, sulphur, azote, and selenium; and forty-one are metals. The five first are called *supporters of combustion*, because they combine with the others, producing a disengagement of heat, light, and *acidifying principles*, and, also, because they are capable of producing acids by a similar combination. The forty-eight others are called *simple combustibles*, because their union with the supporters of combustion, above mentioned, is a real combustion.

Compound bodies, as has been observed, are not so numerous as might be supposed. They result, 1st. From the combination of oxygen, or one of the other simple supporters of combustion, with one of the simple combustibles; such are the acids. 2nd. From that of a simple body combined, with oxygen, with other similar compounds; such are the salts. 3d. From that of two,

three, rarely four simple combustibles, with one another. 4th. From that of oxygen and hydrogen and carbon, forming vegetable matter. 5th. From that of oxygen with hydrogen, carbon and azote, forming animal matter. Combustibles combined with the simple supporters of combustion, are sometimes called *burned bodies*; from the number of their elements, they are also called *binary compounds*. When their taste is acid, and they have the property of reddening vegetable blues, they are termed *acids*. If they are not acid to the taste, and have the property of turning blue what has been reddened by acids, they are distinguished by the termination *ide*, as *oxide*, *chloride*, etc. If only one of the latter class is formed—that is, if the supporter of combustion will unite with the combustible in only one proportion, we call this compound simply the *oxide*, *chloride*, etc. of the combustibles, as *oxide of carbon*. If they unite in several proportions, we call the first, or that which contains the smallest proportion of oxygen, etc., *protoxide*, etc.; the second, *deutoxide*; the third, *trioxide*. The highest is all called *peroxide*. So, if only one acid is formed, we designate it by the name of the combustible, with the termination *ic*. Thus carbon with oxygen forms *carbonic acid*. If several are formed, that which contains the larger proportion of the acidifying principle, is designated by the termination *ic*, and that which contains less, by the termination *ous*. Thus sulphur forms *sulphuric acid* and *sulphurous acid*. If there are still intermediate compounds, we annex *hypo*, to designate a lower degree of acidity. Thus we should have *sulphuric*, *hyposulphuric*; *sulphurous*, *hyposulphurous*. In the acids and oxides, chlorides, etc., the combustible is called the *base*. When the base is the same, the peroxide, etc. always contains less oxygen, etc., than the lowest acid. For the names of compounds of two binary burnt bodies, no rules have been adopted to express the union of two oxides, two acids, or an acid with a non-metallic oxide. But those formed of acids and metallic oxides are called *salts*, and their individual names are formed by changing the termination of the acid, and placing it before the name of the metal; the termination *ous* is changed into *ite*, and *ic* into *ate*; sulphurous acid, with the oxide of tin, would form *sulphite of tin*; sulphuric acid and tin, *sulphate of tin*. If the same acid combines with more than one oxide of the same metal, then we prefix the characteris-

tic of the oxide to the name of the acid; thus sulphuric acid, combined with the protoxide of iron, forms the *protosulphate*; with the peroxide, the *persulphate* of iron. Other substances have also the property of uniting with acids, neutralizing them, and forming compounds analogous to salts. There are no general rules for the names of these compounds, but the substances themselves are called *salifiable, bases*. The rules of nomenclature, in regard to the combination of the combustibles, vary. 1st. If the constituents are metals, they form *alloys*. 2nd. If the components are solid or liquid, and formed of a metallic and a non-metallic combustible, we give to the latter the termination *uret*; as carbon with iron forms *carburet of iron*. If both are non-metallic, the termination *uret* may be attached to either; as, *phosphuret of sulphur*, or *sulphuret of phosphorus*. 3d. If the compound is gaseous, we name the gas, or one of the gases, if it is composed of two, and join the other component as an adjective, as *phosphuretted hydrogen*.

CHAP. II.

ACIDS.

ACIDS: a class of compound bodies, which have the following characteristic properties:—The greater part of them have a sour taste, and most of them are very corrosive. They change the vegetable blues to red, are soluble in water, and have great affinity for the alkaline, earthy, and metallic oxides, with which they form neutral salts. Some acids have no sour taste, but their affinity for the three classes of bodies above mentioned, is always characteristic. If a few drops of sulphuric acid, nitric acid, or muriatic acid, be added to a solution of blue litmus, it becomes red. The same is the case if they be added to other vegetable colors, as violet, etc. Hence these colors are employed as tests of acids; that is, to ascertain when they exist in any substance. We may add the infusion to the fluid in which we are trying to detect an acid, but a more convenient method is, to spread it on paper, and allow it to dry. If a strip of this be put into a fluid in which there is an acid, it instantly becomes red. Some acids appear only in a fluid state—either gaseous, as carbonic acid; or liquid, as sulphuric acid: others appear in a solid form, or crystalized, as benzoic acid, boracic acid, etc.

All acids are compound bodies, and are sometimes divided into four classes, the three first of which are compounded with oxygen; the fourth class consists of those which, at least according to some modern chimists, have no oxygen; *e. g.*, sulphuretted hydrogen. The first class of acids is compounded with oxygen and one other body; the second class comprises the acids compounded of carbon, hydrogen, and oxygen; the third class consists of those acids which contain nitrogen, in addition to the three substances above mentioned. The ancient chimists were acquainted with but few of the acids now known; they divided them, ac-

cording to the kingdoms of nature, into mineral, vegetable, and animal acids. This division, however, cannot be retained, as there are some acids which appear in all the kingdoms; *e. g.*, phosphoric acid. If the same radical be compounded with different proportions of the acidifying principle, forming different acids, the most powerful acid receives a name from the radical, terminating in *ic*; the weaker, a name formed in the same manner, in *ous*: *e. g.*, sulphurous and sulphuric acid, nitrous and nitric acid; and, where there are intermediate compounds, the term *hypo* is occasionally added to the compound next above it in point of acidity: thus, *hyposulphuric* acid, signifies an intermediate acid between sulphurous and sulphuric acids; *hypophosphorous* acid, an acid containing less oxygen than the phosphorous acid.

ALKALIES.

ALKALI: in chimistry, from the Arabian *kali*, the name of a plant from the ashes of which one species of alkali can be extracted. The substances that are met with under the denomination of alkaline, are possessed of certain peculiar properties; they are mainly characterized, however, by a power of combining with acids, in such a manner as to impair the activity of the latter; so that alkalies, as chymical agents, are distinguished by properties the reverse of acids; and alkalies are, therefore, generally considered as antagonist substances.

Besides the power of neutralizing acids, and thereby forming certain saline substances, the alkalies are further distinguished by the following properties: 1st, they have an acrid taste and corrosive power when applied to some substances, thus proving caustic to the skin and tongue; 2d, they change vegetable blue to green, and red to purple, and yellow to a reddish-brown; 3d, they are almost indefinitely soluble in water—that is, they combine with it in every proportion; 4th, they unite with oils and fats, and form by this union the well known compound called *soap*.

There is another class of substances which have a strong analogy to alkalies, especially in the particular of opposition to acids; namely, the earths. Some of these, indeed, have been classed by Fourcroy among the alkalies; but they have been kept separate

by others, on the ground that the analogy between them is far from amounting to an identity of properties. The true alkalies have been arranged, by a modern chimist, into three classes: 1st, those which consist of a metallic basis, combined with oxygen—these are three in number; potash, soda, and lithia: 2d, those which contain no oxygen; namely, ammonia: 3d, those containing oxygen, hydrogen, and carbon; in this class are placed aconita, atropia, brucia, cicuta, datura, delphia, hyosciama, morphia, and strychnia. It is supposed that the vegetable alkalies may be found to be as numerous as the vegetable acids. The original distribution of alkaline substances was into volatile and fixed, the volatile alkali being known under the name of ammonia; while, of the two fixed kinds, one was called *potash*, or *vegetable*, because procured from the ashes of vegetables generally; the other, *soda*, or *mineral*, on account of its having been principally obtained from the incineration of marine plants.

ALBUMEN.

ALBUMEN, in physiology, exists nearly pure in the white of eggs. As thus procured, it is a glaucous fluid, with very little taste. When kept for some time exposed to air, it purifies, but, when spread in thin layers and dried, it does not undergo any changes. When heated to about 165° Fahr., it coagulates, and its properties are entirely changed. It is soluble in cold water, and is separated, in its coagulated state, by hot water, if the quantity of fluid be not great; but, if the water be about ten times as much in amount as the albumen, there is no coagulation. Hence we cannot dissolve it in warm water, for when put into it, it is instantly coagulated. It is also coagulated by acid.

It exists in different parts of animals, as cartilages, bones, horns, hoofs, flesh, the membranous parts, and, in considerable quantity, in blood, from which it is usually procured, when required in the arts. From the property which it possesses, of being coagulated by heat, it is employed for clarifying fluids, as in the refining of sugar, and many other processes. When required in a large quantity, bullock's blood is used. When this, or the white of eggs, is put into a warm fluid, its albumen is coagulated, and en-

tangles the impurities, and, as the scum rises, it is removed. Albumen acts in the same way, also, in clarifying spirituous fluids. When, for instance, the white of an egg is added to wine, or to any cordial, the alcohol coagulates it, and the coagulum entangles the impurities, and carries them to the bottom. Both gelatin and albumen exist in flesh, and, as the former is soluble in warm water, hence the difference in the nutritious quality of butcher's meat, according to the mode of cooking it; when, for instance, meat is boiled, the greater part of the gelatin is extracted, and retained by the soup; when, on the contrary, it is roasted, the gelatinous matter is not removed; so that, roasted meat contains both gelatin and albumen, and should, therefore, be more nutritious than the other. By the analysis of Gay Sussac and Thenard, 100 parts of albumen are formed of 52.883 carbon, 23.872 oxygen, 7.540 hydrogen, 15.705 nitrogen. The negative pole of a voltaic pile in high activity, coagulates albumen. Orfila has found the white of eggs to be the best antidote to the poisonous effects of corrosive sublimate on the human stomach.

BENZOIN.

BENZOIN is a solid, fragile, vegetable substance, of a reddish brown color. In commerce, two varieties are distinguished, viz., the common and the amygdaloidal, the latter containing whitish tears, of an almond shape, diffused through its substance. It is imported from Samatra, Siam, and Java, and is found, also, in South America. Benzoin is obtained from the tree called *styrax benzoin*, and perhaps from some others. On making incisions into the bark, it flows out in the form of a balsamic juice, having a pungent taste, and an agreeable odor. The pure balsam consists of two principal substances, viz., a resin, and a peculiar acid termed *benzoic*, which is procured from the mass, by sublimation. It is soluble in water. This acid is found, also, as a constituent principle in storax, and the balsams of Tolu and Peru. It exists in the urine of cows, camels, and even of young children. It is sometimes found in a crystalline form on the pods of the vanilla. Benzoin is not soluble in water, but is readily dissolved in alcohol, by the aid of a gentle heat. The tincture thus made is used in

pharmacy. A small quantity of this tincture, dropped into water, forms a white, milky fluid, which is used in France as a cosmetic, under the name of *lait virginal*. The gum is a principal ingredient of the common court plaster. The acid, as well as the gum, is employed in medicine; they are stimulating, and act more particularly upon the pulmonary system; whence they are used in asthma, and chronic catarrh.

CAUSTIC POTASSA.

CAUSTIC POTASSA: impure hydrate of protoxide of potassium; caustic kali with lime; common caustic. This is seen in flat, irregular, brittle pieces, or in round sticks, like the nitrate of silver; of a grayish white, sometimes reddish; of a savor extremely caustic, and a slight odor *sui generis*. This substance is extremely caustic; it decomposes quickly the parts with which it is put in contact, and leaves on the skin a soft, grayish *eschar*, which comes off slowly. Taken internally, it acts in the same way as all corrosive poisons; it has, nevertheless, been administered, in very dilute solutions, as an antacid, diuretic, and lithontriptic. It has succeeded in the gravel, in nephritic colics, and other affections, proceeding from superabundance of uric acid. It has been recommended, likewise, in the treatment of scrofula, and in some diseases of the skin, such as leprosy, etc. This solution, even when very diluted, soon irritates the stomach, and brings on anorexia, which prevents it from being used for any length of time.

CAUSTUS.

THE name of *caustic* is given to substances, which, by their chemical action disorganize the parts of the body with which they are put in contact. They are called, likewise, *potential cauteries*, to distinguish them from the fire called *actual cautery*.

Caustics, in general, act by decomposing chemically the tissues to which they are applied, by depriving them of life, and producing a real local and circumscribed gangrene, called *eschar*, or

slough. Those, the action of which is powerful, for instance, caustic potassa, concentrated sulphuric acid. etc., produce these phenomena with such rapidity, that inflammation takes place only after the formation of the *eschar*; whilst, on the contrary, inflammation is the immediate consequence of the less energetic caustics. In both cases, suppuration occurs sooner or later, and separates the disorganized from the surrounding parts. Almost all the substances used as caustics have only a local action; some, however, are capable of being absorbed, and of exercising a deleterious action on the economy in general; arsenical preparations are an instance of it.

The employment of caustics is now confined to a small number of cases. The actual cautery, and the knife, are, in general, preferred to them. They are used, principally, in order to establish issues, particularly in cases in which it is necessary to produce a powerful derivation; to stop the progress of certain gangrenous affections, such as anthrax; to open certain indolent abscesses; to change the mode of vitality of the skin, in some cancerous or heaped ulcers; to destroy the excrescences of wounds or proud flesh; and, finally, to prevent the absorption of the virus, deposited at the surface of poisoned wounds.

ESSENTIAL OILS.

THIS name is applied to those volatile fluids usually obtained from aromatic plants, by subjecting them to distillation with water. The oil is volatilized with the aqueous vapor, and is easily condensed; a small portion of it is retained in solution by the water; but the greater part separates, and is obtained pure from the difference in their specific gravity. In some instances, as, for example, in the rind of the orange and lemon, the oil exists in distinct vesicles, and may be obtained by expression.

The principal volatile or essential oils are those of turpentine, anniseed, nutmeg, lavender, cloves, caraway, peppermint, sassafras, camomile, and citron. The taste of these oils is acrid and burning, and their odor very pungent, generally resembling the taste and smell of the vegetables affording them. They are generally fluid, and remain so even at a low temperature; but some

congeal at a very moderate degree of cold, and others are naturally concrete. They are extremely volatile, and boil at a temperature considerably above that of boiling water: thus oil of turpentine boils at 315° . They are very soluble in strong alcohol: but, on adding water largely, are precipitated; they are soluble in ether, in like manner, but do not form soaps with the alkalies, by which they are distinguished from the fixed oils. They are readily inflamed by strong nitric acid, especially with the precaution of adding a little sulphuric acid to render the former more concentrated. Exposed to the action of the air, they undergo an alteration in consequence of the absorption of oxygen, become thickened, and gradually change into a solid matter resembling the true resins. When digested with sulphur, they unite with it, forming what have been called *balsams of sulphur*.

One of the most useful and abundant of the essential oils is that of turpentine, commonly called *spirit of turpentine*. It is obtained by distilling turpentine and water, in due proportions, from a copper alembic. It is perfectly limpid and colorless, has a strong smell, a bitterish taste, boils at 316° , and is extremely inflammable. It is the solvent employed in making a variety of varnishes; but, for purposes of nicety, it requires to be rectified by a second distillation.

In general, the volatile oils are used in the practice of medicine, or as perfumes. Those applied to the latter use, as the essence of rose, of jasmine, violet, etc., are possessed of a more feeble odor, and, being obtained from the flowers of their respective plants, require much care in their preparation. This is done by spreading upon white wool, impregnated with olive oil, the petals of the flowers, and leaving them for some time, covered over with a woollen cloth, upon which flowers are also scattered; the flowers are renewed from time to time, until the olive oil employed appears to be saturated with the oil of the flowers, when this last is separated by digesting the wool in alcohol.

DECOMPOSITION, CHIMICAL.

DECOMPOSITION, CHIMICAL, is the resolution of a compound substance into its constituent parts, which are exhibited either sepa-

rate, or in some new combination. The compounds which are spontaneously formed by organic bodies, both vegetable and animal, are of a different nature from those which exist in unorganized matter. They are the peculiar results of vital process, and neither their structure nor composition can be imitated by art. During life, the elements of organic bodies are held together by vital affinities, under the influence of which they were originally combined. But no sooner does life cease, than these elements become subject to the laws of inert matter. The original affinities, which had been modified or suspended during life, are brought into operation; the elementary atoms react upon each other, new combinations are formed, and the organized structure passes, sooner or later, into decay.

The rapidity with which decomposition takes place in organic bodies depends upon the nature of the particular substances, and upon the circumstances under which it is placed. Temperature, moisture, and the presence of decomposing agents, greatly affect both the period and extent of this process.

CHAP. III.

ORIGIN AND REGULATION OF ANIMAL HEAT.

THE true sources of animal heat are still imperfectly known. Its regular production, however, is an essential condition of life. If the human body did not possess within itself the power of generating heat, so as to maintain nearly an equality of temperature in all climates, it could not long exist. In winter, and especially in the northern regions, the blood would speedily be converted into a solid mass, and life be extinguished, if no provision existed, for replacing the caloric withdrawn from the system by the surrounding cold. In most parts of the globe, the heat of the atmosphere is, even in summer, inferior to that of the human body, and consequently a loss of caloric is always going on, which must be made up in some way, otherwise disease and death would speedily ensue. In cholera, a very remarkable diminution of heat occurs, and a return of the natural temperature is an indispensable step towards recovery.

The relation between the production of animal heat, and the condition of the respiratory functions, is the most direct and remarkable. In general, other conditions being alike, heat is generated more or less freely, in proportion to the size and vigor of the lungs; and when these are impaired, the production of heat is diminished. Hence many persons, with imperfectly developed lungs, and a predisposition to consumption, complain habitually of coldness of the surface and feet; and many who were previously in good health, became more and more sensible to cold, in proportion as the approach of disease weakened the functions of the lungs. I have noticed this increased sensibility to cold, as precursor of chronic pulmonary disease, both in myself and others,

before any other very ostensible symptom had appeared, and think I have seen its further progress arrested by the timely use of proper means, where much greater difficulty would have been experienced had the warning not been attended to.

The generation of heat in the living system being so immediately connected with the lungs, we find the temperature highest in those animals who possess them in the greatest perfection, viz. birds. In many species, the internal heat exceeds that of man by twenty or thirty degrees; while that of man exceeds, to as great an extent, the heat of such of the inferior animals as are remarkable for imperfect organs of respiration.

The next condition affecting the production of animal heat, is the co-operation of the nervous system. If the mind be depressed by grief, tormented by anxiety, or absorbed in sedentary meditation, all the bodily functions become weakened, the circulation languishes, the breathing becomes slow and scarcely perceptible, digestion is ill-performed, and coldness of the extremities ensues. If, on the other hand, the mind and nervous system be stimulated by cheerful exertion and agreeable emotion, a pleasant glow pervades the frame, and external cold is much more easily resisted.

The quantity and quality of the food, and the state of the digestive functions, are also important conditions. This will be readily assented to, when the reader considers that a due supply of well-formed chyle is required to restore the nourishing properties of the blood, and that if, in consequence either of insufficient food or weak digestion, this be rendered impossible, all the animal functions, and, among others, the production of heat, are necessarily impaired. This is the reason why coldness of the feet, and chilliness of the surface are so generally complained of in indigestion and bilious complaints.

Every body knows that exercise favors, and indolence obstructs the development of animal heat. Exercise produces its effect by the general stimulus which it gives directly to the respiratory and circulating systems, and indirectly to the nervous and digestive functions.

In attempting, therefore, to increase the power of resistance to cold in the human body, we ought to take into account all the conditions which favor the generation of heat. Observation proves that the degree of cold required to overcome the internal genera-

ting power, and to extinguish life, varies in the same individual at different times; and, therefore, our protecting measures ought also to be varied according to the state of the constitution, the vigor of the respiratory and digestive functions, the kind of food, and the amount of exercise. When food is inadequate, and the mind depressed, the system resists the impression of cold with great difficulty; and even in Scotland, where the temperature is rarely very low, scarcely a winter passes without several instances of death occurring from exposure in ill-fed and ill-clothed individuals, even when the thermometer is above the freezing point. This happens usually, when the wind aids the rapid abstraction of heat. Well-fed and well-clothed guards of coaches, on the other hand, are remarkable examples of the power of withstanding low temperatures in very exposed situations, where the animal functions are in a state of vigor. The recent Arctic expeditions under Parry and Franklin, afforded similar instances. If the use of suitable clothing is found insufficient to keep the body warm, we may infer with certainty, although no other sign of bad health has appeared, that some internal cause exists, affecting and impairing one or the other of the sources of animal heat already mentioned, and that till the special cause be discovered and removed, the evil itself will continue undiminished.

In winter, young people often suffer from being daily confined, for many hours in succession, without exercise, in rooms insufficiently heated. This is a constant subject of complaint in large academies and boarding-schools, where economy in fuel is carried to its utmost limits. Nothing tends more than this to lower the general standard of health, and prepare the individual for the future inroads of insidious disease. In scrofulous children, especially, in whom the evolution of heat is rarely energetic, the evil is one of great magnitude; for the chilblains, colds, and headaches, more immediately complained of, are often its least important consequences. It is far from my wish to recommend that the young of either sex should be brought up in the relaxing atmosphere of over-heated rooms. On the contrary, comfortable warmth ought, in every instance, to be drawn chiefly from its legitimate sources—free respiration in a pure air, abundant out-door exercise, vigorous digestion, and an actively employed mind. If these conditions be observed, little fire will be required, to supply

warmth to the young. But if, as often happens, these be neglected, and the generation of animal heat be thereby reduced too low, we must either allow the mischief to go on increasing, or afford an adequate warmth from without. It is in vain to think of rendering young creatures hardy, by subjecting them to the continued influence of a depressing temperature. A few may escape, but the majority will certainly suffer.

DR. ARNOTT'S HYDROSTATIC BED FOR INVALIDS.

IN many diseases which afflict humanity, more than half of the suffering and danger is not really a part of the disease, but the effect or consequence of the confinement to which the patient is subjected. Thus, a fracture of the bone of the arm is as serious a local injury, as a fracture of one of the bones of the leg; but the former leaves the patient free to go about and amuse himself, or attend to business as he wills, and to eat and drink as usual—in fact, hardly renders him an invalid; while the latter imprisons the patient closely upon his bed, and brings upon him, first, the irksomeness of the unvaried position, and then the pains of the unequal pressure borne by the parts on which the body rests. These, in many cases of confinement, disturb the sleep and the appetite, and excite fever, or such constitutional irritation, as much to retard the cure of the original disease, and not unfrequently to produce new and more serious disease.

That complete inaction should prove hurtful to the animal system, may by all be at once conceived; the operation of the continued local pressures will be understood from the following statements. The health and even life of every part of the animal body depends on the sufficient circulation through it of fresh blood driven in by the force of the heart. Now, when a man is sitting or lying, the parts of the flesh compressed by the weight of the body do not receive the blood so readily as at other times; and if, from any cause, the action of his heart becomes weak, the inter-

ruption will both follow more quickly and become more complete. A peculiar uneasiness soon arises where the circulation is thus obstructed, impelling the person to change of position ; and a healthy person changes as regularly, and with as little reflection, as he winks to wipe and moisten his eye-balls. A person weakened by disease, however, while he generally feels the uneasiness sooner, as explained above, and, therefore, becomes what is called restless, makes the changes with much fatigue : and, should the sensations, after a time, become indistinct, as in the delirium of fever, in palsy, etc., or should the patient have become too weak to obey the sensation, the compressed parts are kept so long without their natural supply of blood that they lose their vitality, and become what are called sloughs or mortified parts. These have, afterwards, to be thrown off, if the patient survive, by the process of ulceration, and they leave deep holes, requiring to be filled up by new flesh, during a tedious convalescence. Many a fever, after a favorable crisis, has terminated fatally from this occurrence of sloughing on the back or sacrum ; and the same termination is common in lingering consumptions, palsies, spine diseases, etc., and generally in diseases which confine the patients long to bed.

It was to mitigate all, and entirely to prevent some, of the evils attendant on the necessity of remaining in a reclining posture, that the hydrostatic bed was contrived. It was first used under the following circumstances :

A lady, after her confinement, which occurred prematurely, and when her child had been for some time dead, passed through a combination and succession of low fever, jaundice, and phlegmasia dolens of one leg. In her state of extreme depression of strength and of sensibility, she rested too long in one posture, and the parts of the body on which she had rested all suffered ; a slough formed on the sacrum, another on the heel : and, in the left hip, on which she had lain much, inflammation began, which terminated in abscess. These evils occurred while she was using preparations of bark, and other means, to invigorate the circulation, and while her ease and comfort were watched over by the affectionate assiduity of her mother, with numerous attendants. After the occurrence, she was placed upon the bed contrived for invalids by Mr. Earle, furnished for this case with pillows of down, and of air of various sizes, and, out of its mattress, portions were cut opposite to the slough-

ing parts; and Mr. Earle himself soon afforded his valuable aid. Such, however, was the reduction of the powers of life, that, in spite of all endeavors, the mischief advanced, and, about a week later, during one night, the chief slough on the back was much enlarged, another had formed near it, and a new abscess was produced in the right hip. An air-pillow had pressed where the sloughs appeared. The patient was, at that time, so weak that she generally fainted when her wounds were dressed; she was passing days and nights of uninterrupted suffering, and, as all known means seemed inefficient to relieve her, her life was in imminent danger.

Under these circumstances, the idea of the hydrostatic bed occurred to me.

Even the pressure of an air-pillow had killed her flesh; and it was evident that persons in such a condition could not be saved unless they could be supported without sensible inequality of pressure. I then reflected that the support of water to a floating body is so uniformly diffused that every thousandth of an inch of the inferior surface has, as it were, its own accurate liquid pillar, and no one part bears the load of its neighbor; that a person resting in a bath is nearly thus supported; that this patient might be laid upon the surface of a bath over which a large sheet of the waterproof India rubber cloth was previously thrown, she being rendered sufficiently buoyant by a soft mattress placed beneath her; thus would she repose on the face of the water like a swan on its plumage, without sensible pressure any where, and almost as if the weight of her body were annihilated. The pressure of the atmosphere on our bodies is of fifteen pounds per square inch of its surface: but, because uniformly diffused, is not felt. The pressure of a water bath, of depth to cover the body, is less than half a pound per inch, and is similarly unperceived. A bed, such as then planned, was immediately made. A trough of convenient length and breadth, and about a foot deep, was lined with metal to make it water-tight; it was about half filled with water, and over it was thrown a sheet of the India rubber cloth as large as would be a complete lining to it empty. Of this sheet, the edges, touched with varnish to prevent the water from creeping round by capillary attraction, were afterwards secured in a water-tight manner all round the upper border or top of the trough, shutting in the

water as closely as if it had been in bottles, the only entrance left being through an opening at one corner, which could be perfectly closed. Upon this expanded dry sheet, a suitable mattress was laid, and constituted a bed ready to receive its pillow and bed clothes, and not distinguishable from a common bed but by its most surpassing softness or yielding. The bed was carried to the patient's house, and she was laid upon it; she was instantly relieved in a remarkable degree, sweet sleep came to her, she awoke refreshed, she passed the next night much better than usual, and, on the following day, Mr. Earle found that all the sores had assumed a healthy appearance; the healing from that time went on rapidly, and no new sloughs were formed. When the patient was first laid upon the bed, her mother asked her where the down pillows, which she before had used, were to be placed; to which she answered, that she knew not, for that she had no pain left to direct; in fact, she needed them no more.

It may be here recalled to mind, that the human body is nearly of the specific gravity of water, or of the weight of its bulk of water, and, therefore, as is known to swimmers, is just suspended or upheld in water without exertion, when the swimmer rests tranquilly on his back with his face upwards. He then displaces water equal to his own body in weight as well as in bulk, and is supported as the displaced water would have been. If his body be two and a half cubical feet in bulk, (a common size,) he will just displace two and a half cubic feet of water, equal in weight to his body. If, however, instead of displacing the water with his mere body, he chooses to have something around or under him which is bulky with little weight, as the mattress of the bed above described, when his weight has forced two cubical feet under the level of the water around, he will float four-fifths of his body above the level, and will sink much less into his floating mattress, than a person sinks in an ordinary feather bed. It thus appears that, by choosing the thickness of the mattress, and if unusual positions are required, by having different thickness in different parts, or by placing a bulk of folded blanket, or of pillow, over or under the mattress, in certain situations, any desirable position of the body may be easily obtained.

This bed is a warm bed, owing to the water being nearly an absolute non-conductor of the heat from above downwards, and

owing to its allowing no passage of cold air from below. From this last fact, however, less of the perspiration, whether sensible or insensible, will be carried off by the air, than in a common bed; and unless the patient can leave the bed daily, to let it be aired, it is necessary to lay an oiled silk, or other water-proof cloth, over the mattress, to prevent the perspiration from descending, to be condensed on the cloth below; or to place a blanket below, to be changed occasionally; or, finally, to lay under the mattress a layer of cork, cut into small pieces, so connected as to leave air passages between, for any desirable degree of ventilation. This bed is in itself as dry as any bed can be; for the India rubber cloth, (of which bottles can be made,) is quite impermeable to water, and the maker is now preparing cloth expressly for this purpose.

Sir Humphrey Davy recommended that his safety lamp should be double; some persons may prefer a double sheet, to avoid the possibility of accident.

Unlike any other bed that ever was contrived, it allows the patient, when capable of only feeble efforts, to change his position, almost like a person swimming, and so to take a degree of exercise, affording the kind of relief which, in constrained positions, is obtained by occasional stretching, or which an invalid seeks by driving out in a soft springed carriage. It exceedingly facilitates turning for the purpose of dressing wounds; for, by raising one side of the mattress, or depressing the other, or merely by the patient's extending a limb to one side, he is gently rolled over, nearly as if he were simply suspended in water; and it is possible even to dress wounds, apply poultices, or place vessels under any part of the body, without moving the body at all, for there are some inches of yielding water under the body, and the elastic mattress may, at any part, be pushed down, leaving vacant space there, without the support being lessened for the other parts. Then, with all the advantages which other invalid beds possess, and with those which are entirely its own, it may be made so cheaply, that even in hospitals, where economy most prevails, it may at once be adopted for many of the bed-ridden.

The author has now seen enough of the effects of this bed, to make him feel it a duty at once to publish a notice of it. With it, evidently, the fatal termination called sloughing, now so common, of fevers and other diseases, need never occur again. And

not only will it prevent that termination, but, by alleviating the distress through the earlier stages, it may prevent many cases from ever reaching the degree of danger. Then it is peculiarly applicable to cases of fractured bones, and other surgical injuries; to palsies, disease of the hip-joint and spine, and universally where persons are obliged to pass much time in bed. And in all cases of curvature of the spine, either actually existing or threatened, it affords a means of laying the patient in any desired position, and with any degree of pressure incessantly urging any part of the spine back to its place. If used without the mattress, it becomes a warm or a cold bath, not allowing the body, however, to be touched by the water; and in India it might be made a cool bed for persons sick or sound, during the heats which there prevent sleep, and endanger health. There are numerous other professional adaptations and modifications of it, which readily occur to practitioners sufficiently versed in the department of natural philosophy (hydrostatics) to which it belongs. Before reflection, a person might suppose a resemblance between it and an air-bed or pillow, calling this a water bed or pillow; but the principles of the two are perfectly distinct or opposite. An air pillow supports by the *tension of the surface*, which encloses the air, and is therefore like a hammock, or the tight sacking under the straw mattress of a common bed, and really is a hard pillow; but, in the hydrostatic bed, there is no tense surface or web at all: the patient is floating upon the water, on which a loose sheet is lying, merely to keep the mattress dry, and every point of the body is supported by the water immediately beneath it. To recall the difference here described, and which is of great importance, the bed is better described by the appellation of *hydrostatic bed* than of *water bed*.

HUNGER;

THE feeling of a want of food. When the stomach has digested and disposed of the food and drink which it contained, its peculiar nervous power is destroyed, and some time is necessary before it collects it again. This time is shorter, in proportion as the individual is healthy, young, strong and active. As soon as this nervous power is restored, the activity of the organ is again awaken-

ed, and produces a longing to eat, which we call, in its first degree, appetite. If this is not gratified, it gains strength, and becomes hunger.

Appetite is not a disagreeable feeling, but hunger is an ever-increasing pain, on account of the ever-increasing sensibility of the nerves of the stomach. To some men, whose stomachs are morbidly sensitive, the first desire for food is unpleasant; and if this desire is not immediately gratified, they are seized with griping pains in the parts about the stomach, which, if not appeased, are followed by sudden weakness, and even fainting. If hunger be not satisfied, a dreadful state of the body ensues, and finally death. After long-continued hunger, the blood becomes weak, acrid and thin, on account of the want of materials to compensate for the nutritious matter expended in the support of the body; hence the whole body becomes lean and weak; bloody fluxes take place from all parts, as well as violent irritation of the nervous system, caused by the excessive sensibility of the nerves of the stomach, which, at length, extends to the whole region of the abdomen; is carried to a still greater height, and produces pain over the whole body; sleeplessness; convulsion; raving madness; until, at length, death puts an end to the scene.

There is a mode of curing diseases by the greatest possible abstinence from food; so much only being allowed, as is requisite to keep the patient alive. The food is diminished by degrees; and, in the period of convalescence, is increased in the same way, with much precaution, as many patients, unable to resist their appetite, have died in consequence of a slight indulgence. This mode of cure has been found of great use in the cases of deep-rooted complaints, which baffled the powers of medicine. It is applied particularly in connection with frequent unctions of mercury; in obstinate cases of syphilis, when even the bones have become affected; and the cases in which this severe remedy has produced brilliant successes, are numerous. It is considered, in Germany, as indispensable to the cure of inveterate syphilis. The patient is kept in a well-closed room, receiving only a little bread and water, and soon loses his appetite, owing to his debilitated state, produced by the mercurial unctions. His bed-linen is never changed, nor the room aired; indeed, a very trifling draught of

air has proved fatal. The salivation is very great, and it is surprising that man can live at all in such a state as these patients are often in. The cure generally requires about three weeks.

ALIMENT.

ALIMENT: a term which includes every thing serving as nutriment for organized beings. In animals and vegetables, we can observe the phenomena of decomposition and reproduction, and analyze the substances that administered to their growth. Generally, however, the word aliment is used for whatever serves as nutriment to *animal* life. It is, in this respect, a subject of great interest to the zoologist. In the present article, we shall confine ourselves to the aliment of mankind.

Man, it is well known, derives nourishment both from animal and vegetable substances. He eats fruits, both ripe and unripe; roots, leaves, flowers, even the pith and the bark of different plants, many different parts of animals, and the whole of some. Climate, custom, religion, the different degrees of want and of civilization, give rise to an innumerable diversity in food and drink, from the repast of the cannibal of New-Zealand, to that of a Parisian epicure; from the diet of the carnivorous native of the North, to that of the Brahmin, whose appetite is satisfied with vegetables; from the oak-bark bread of the Norwegian peasant, to the luxuriantly served table of a Hungarian magnate at Vienna. Some nations abhor what others relish, and great want often renders acceptable what, under other circumstances, would have excited the greatest disgust. The flesh of dogs is commonly eaten in China, and in Africa that of snakes, particularly of the rattlesnake and boa constrictor. Locusts are eaten both in Asia and Africa, and the Negroes on the coast of Guinea relish lizards, mice, rats, snakes, caterpillars, and other reptiles and worms. The Otomacs, a tribe of American Indians, are said by Humboldt to collect a kind of clay, to be eaten in the rainy season.

It is an interesting subject, as yet by no means sufficiently investigated, how far the different aliment of various countries is connected with the climate, etc., and what influence it exerts on the different races, as well as the consequence of introducing new

species of aliments. Some excellent remarks on the national dishes of different nations, were published by Baron Rumor, a German, in 1822, in a work which he called *Kochkunst*.

All kinds of aliment must contain nutritious substance, which, being extracted by the act of digestion, enters the blood, and effects, by assimilation, the repair of the body. Alimentary matter, therefore, must be similar to animal substance, or transmutable into such. In this respect, alimentary substances differ from medicines, because the latter retain their peculiar qualities in spite of the organs of digestion, and will not assimilate with the animal substance, but act as foreign substances, serving to excite the activity of particular organs or systems of the body. All alimentary substances must, therefore, be composed, in a greater or less degree, of soluble parts, which easily lose their peculiar qualities in the process of digestion, and correspond to the elements of the body. These substances, in their simple state, are mucilage, gelatin, gluten, albumen, farina, fibrin, and saccharine matter. Of these, vegetables contain chiefly mucilage, saccharine matter, and farina; which latter substance, particularly in connection with the vegetable gluten—by which both become apt for fermentation, and thus for dissolution and digestion—is the basis of very nutritious food. The nutritive part of fruits consists of their saccharine matter and a little mucilage. In animal food, gelatin is particularly abundant. The nutritiousness of the different species of food and drink depends, therefore, upon the proportion which they contain of those substances, and the mode in which they are connected, favoring or opposing their dissolution. Organs of digestion in a healthy state dissolve alimentary substances more easily, and take up the nutritious portions more abundantly, than those of which the strength has been impaired so that they cannot resist the tendency of each substance to its peculiar chymical decomposition. The wholesome or unwholesome character of any aliment depends, therefore, in a great measure, on the state of the digestive organs, in any given case. Sometimes a particular kind of food is called wholesome, because it produces a beneficial effect, of a particular character, on the system of an individual. In this case, however, it is to be considered as a medicine, and can be called wholesome only for those whose systems are in the same condition. Very often a simple aliment is made indigestible by artificial cookery. Aliments

abounding in fat are unwholesome, because fat resists the operation of the gastric juice. The addition of too much spice makes many an innocent aliment injurious, because spices resist the action of the digestive organs, and produce an irritation of particular parts of the system. They are introduced as artificial stimulants of appetite. In any given case, the digestive power of the individual is to be considered, in order to determine whether a particular aliment is wholesome or not. In general, therefore, we can only call that aliment healthy, which is easily soluble, and is suited to the digestive powers of the individual; and, in order to render the aliment perfect, the nutritious parts must be mixed up with a certain quantity of innocent substance affording no nourishment, to fill the stomach; because there is no doubt that many people injure their health by taking too much nutritious food. In this case, the nutritious parts which cannot be dissolved, act precisely like food which is in itself indigestible. In Prussia and Austria, where, as under many other despotic governments, the medical police is very good, the public officers pay much attention to aliment, and are careful that provisions exposed to sale be of a good quality, and particularly that no decayed or adulterated articles be sold to the poor. Such regulations exist, to a certain extent, in England, France, the United States, and, in fact, in every civilized country.

The kind of aliment used influences the health, and even the character of man. He is fitted to derive nourishment both from animal and vegetable life, but can live exclusively on either. Experience proves that animal food most readily augments the solid parts of the blood, the fibrin, and, therefore, the strength of the muscular system, but disposes the body, at the same time, to inflammatory, putrid, and scorbutic disease, and the character to violence and coarseness. On the contrary, vegetable food renders the blood lighter and more liquid, but forms weak fibers, disposes the system to the diseases which spring from feebleness, and tends to produce a gentle character. Something of the same difference of moral effect results from the use of strong or light wines. But the reader must not infer that meat is indispensable for the support of the bodily strength. The peasants of some parts of Switzerland, who hardly ever taste any thing but bread, cheese, and butter, are vigorous people. The nations of the North incline, generally, more to animal diet; those of the South, and the Orientals,

more to vegetable. These latter are generally more simple in their diet than the former, where their taste has not been corrupted by luxurious indulgence. Some tribes in the East, and the caste of Brahmins in India, live entirely on vegetable food. The inhabitants of the most northern regions live almost entirely upon animal food, scarcely ever partaking of any vegetable substance, at least during the greater part of the year. Some nations feed chiefly on terrestrial animals, others on aquatic ones.

DIET.

THE dietetic part of medicine is an important branch, and seems to require a much greater share of attention than it commonly meets with. A great variety of diseases might be removed by the observance of a proper diet and regimen, without the assistance of medicine, were it not for the impatience of the sufferers. It may, however, on all occasions, come in as a proper assistant to the cure. That food is, in general, thought the best and most conducive to long life, which is most simple, pure, and free from irritating qualities, and is capable of being most easily converted into the substance of the body, after it has been duly prepared by the art of cookery; but the nature, composition, virtues and uses of particular aliments can never be learned to satisfaction, without the assistance of practical chemistry.

DIET DRINK, an alterative decoction, employed daily in considerable quantities, at least from a pint to a quart. The decoction of sarsaparilla and mezereon, the Lisbon diet-drink, is the most common and most useful.

DIGESTION.

DIGESTION is that process in the animal body, by which the aliments are dissolved, and the nutritive parts separated from those which cannot afford nourishment to the body. The organs effecting this process are divided into the *digestive organs*, properly so called, and the *auxiliary organs*. The former are composed of the division of the intestinal canal, which includes the stomach,

the great and small intestines, etc. To the latter belong the liver, the pancreas, and the spleen.

The first process of digestion is the solution of the aliments. When the aliments, after being properly prepared, and mixed with saliva by mastication, have reached the stomach, they are intimately united, by the motion of the stomach, with a liquid substance called the *gastric juice*. By this motion, the aliments are mechanically separated into their smallest parts; penetrated by gastric juice, and transformed into a uniform pulpy, or fluid mass. At the same time, a solution of the aliments into their simple elements, and a mixture of them, so as to form other products, takes place, effected partly by the peculiar power of the stomach, and the liquid generated in it; partly by the warmth of this organ. This pulpy mass, called chyme, proceeds from the stomach, through the pylorus, into the part of the intestinal canal called the *large intestines*, where it is mixed with the pancreatic juice, and the bile. Both these liquids operate most powerfully on the chyme, yet in very different ways. The mild juice of the pancreas attracts the milk-like liquid of the chyme, and forms with it the *chyle*, which is absorbed by the capillary vessels called *lacteals*. On the other hand, the bitter matter called *bile*, formed by the liver from the blood, attracts the coarser parts, which are not fitted to be absorbed into the fine animal organization; and excites the intestinal canal to the motion which carries it off, through the natural channel.

CHAP. IV.

RESPIRATION.

RESPIRATION; the alternate inspiration and expiration of atmospheric air, for the purpose of bringing it in contact with the blood, and exchanging the hydrogen and carbon, with which it is charged, for oxygen. This function is, therefore, closely connected with that of the circulation of the blood. The organs and mechanism by which this wonderful function is carried on, vary considerably in the different classes of animals. In the mammalia, birds and reptiles, the organ of respiration is the lungs; in fish, the gills; in most common instruments, the tracheæ; and, in the lower classes of animals, different parts of the system. The air, being brought in contact with the blood, is decomposed; its oxygen is united with the blood, and its nitrogen is returned, by expiration, unchanged, with an additional quantity of carbonic acid gas. A part of the oxygen of the inhaled air is united, in the lungs, with the free hydrogen, and forms water, which is emitted in the form of vapor, visible at 40° Fahrenheit. Another part of the oxygen unites with the superfluous carbon in the blood, and forms the carbonic acid gas which passes off with the watery vapor. It is evident, from observation, that oxygen gas is necessary to animal life. As to its manner of operating in the body after inspiration, opinions differ. Upon respiration, also, depends animal heat, which is greater, at least, in mammalia and birds than that of the surrounding element. The mechanical part of the function of respiration is effected by the action of the ribs and diaphragm. In the natural state, the ribs are inclined downwards; and when this series of movable hoops is raised by the action of the muscle, the cavity of the chest is enlarged. The descent of the diaphragm, by its construction, increases this effect, and the air, therefore, rushes in to fill up the vacant space; the ribs then descend, and the diaphragm rises, and the air is necessarily driven out in consequence of the resulting

contraction of the chest. About twenty respirations take place in a minute ; and from thirty to forty cubic inches of air are inhaled at each inspiration. A man consumes about a gallon of air in this same time.

PERSPIRATION.

By perspiration from the skin of beasts and men, we understand first, the action by which certain fluid matters, separated from the blood in the thick network of capillary vessels and cells constituting the skin, are changed into vapor, (or into fine effluvia,) and in this form escape at the pores of the skin ; second, sometimes, also, the secretion and removal from the body of these matters themselves by the action of the skin. This effluvium is usually so fine that we cannot see it with the naked eye ; hence, we call it the insensible perspiration ; but it becomes visible if we hold the hand on cold glass or polished metal, also, if the perspiration is strong, in a cold temperature, or if from a still stronger perspiration, this vapor is not dissolved in the air, but collects on the skin in drops forming sweat. This perspiration, through the skin, has much resemblance to the vapor that escapes from the lungs to the secretions of the membranes lining the cavities of the body, as the stomach, chest, and abdomen, with which secretions it also appears to stand in connection. The importance of this function will be evident when we reflect that the surface of a full grown man contains fifteen or sixteen square feet, and, therefore, the quantity of matter incessantly perspired must be very great, which is also confirmed by the accurate observations of Sanctorius, (Venice, 1611,) who spent a great part of his life at the balance. He weighed and kept an account not only of all the food that he consumed, but also of every thing that passed from him, and thereby proved that a great part, not only of the fluids, but also of the solid substances that a man consumes, leaves his body by perspiration.

Perspiration promotes two objects, very important for the preservation of the bodily structure ; one is the purification of the blood from injurious and superfluous matters. Besides the adventitious compound matters that pass into the blood from particular kinds of food, (for instance, onions, etc.,) the carbon, the hydro-

gen, and particularly the excess of nitrogen, are carried off from the blood by perspiration, and changed by caloric into gas and vapor, and thus removed from the body. The substance of the body is, in many diseases, particularly in fevers, converted into aeriform fluids by an evaporation so extraordinarily increased and accelerated, that the strongest man is entirely worn away in a few days, without having lost any thing except through the skin. The other advantage of perspiration is, the preservation of a suitable degree of warmth in the body, and the reduction of an immoderate heat. Every living body has its peculiar degree of warmth, which remains for the most part the same, whether the surrounding bodies are more or less warm. The temperature of man is about ninety-two to ninety-nine degrees of Fahrenheit. As much caloric is employed in the process of perspiration, it is an important means of cooling the body, and of conducting off the heat which is incessantly generated within. The greater the heat which the body is exposed to, or the more it is produced within from other causes, as hot drinks and excitement, the greater is the perspiration, and the more actively is the heat conducted off. If the body is exposed to great cold, the operations of the skin are weakened, perspiration proceeds more slowly, caloric is more sparingly consumed, and thus accumulates in the body. Men usually lose flesh in summer, and recover it in winter, because the increased perspiration dissolves and removes more substance from the body in the former season. Therefore a man is cooled by sweat, and in the dry heat of fever is refreshed, as soon as a crisis produces perspiration. An interruption, or even a disturbance of perspiration for a long time, must then produce results in the highest degree prejudicial to the health, and even dangerous to life. These results, in a great measure, depend on the close connection of the operations of the skin with those of the internal organs, and are the more stubborn and injurious the longer the perspiration is impeded. The increase of the internal warmth often produces a fever; also noxious matters are collected in the blood, from which it should be freed; therefore, it changes from its natural condition, and an unnatural excitement is produced. Finally, the operation of the other organs of secretion is immoderately increased, because they have to perform, in part, the office of the skin; thence re-

sult after a cold, rheum, sore-throat, cough; also serious internal inflammations, diarrhea, diabetes, dropsy, protracted rheumatism, and various other diseases.

SECRETION.

MANY of the component parts of the animal system become, in the course of its operation, changed and unfit for further use. For the preservation of the system, it is not less necessary that these parts should be removed, than that the constant consumption should be supplied; and in this double process, the whole organic system is continually changing its ingredients, although it retains the same external form. This supply of new matter is derived from the blood, and the process itself is called *secretion*. Most animals secrete both solids and fluids. The solids are deposited by the capillary vessels, at the places of their destination, and supply the continual wear of the system. The liquids are not intended to preserve the form directly, but serve to assimilate the food, by promoting digestion, as, for instance, the saliva, gastric juice, and bile. In these secreted fluids, are contained all the component parts of the blood, slightly changed, together with an alkali. Distinguished from these, are the excretions which are produced in a similar manner, and are designed to carry off from the system useless matter.

SYMPATHY;

THE quality of the animal organization, by which, through the increased or diminished activity of one organ, that of others is also increased or diminished. The idea of an organized system—the union of many parts in one whole, in which all the parts correspond to each other—includes the idea of a mutual operation, of which sympathy is a part. The medium between the organ from which the action proceeds, and that to which it extends, has been sometimes supposed to be the nervous system, sometimes the vascular or the cellular system, or the juices, and it cannot be denied, that, in some sympathetic phenomena, the nerves and

the vessels appear to be the media; but there are objections to considering them as the cause of sympathy in general, for experience teaches that sympathy takes place also between such organs as have no discoverable connection by nerves or vessels. The phenomenon of sympathy appears even in the healthy body; *e. g.* a strong light thrown upon the eye, sometimes produces sneezing, (*q. v.*); tickling causes laughing; and some physiologists have even called the change of voice at the age of puberty, and the increased secretions of the liver, the salivary glands, the pancreas, and the coats of the stomach, at the time of digestion, a sympathetic action.

But the effect of sympathy is much more oftener observed in diseases. There is hardly one in which some phenomena are not to be explained by sympathy. *Sympathy* is further used to express the influence of the state of one individual upon another, *e. g.* the tickling in the throat, caused by the cough of another person, or the yawning produced by seeing another yawn, or the grief produced by witnessing his grief. The effects of animal magnetism (*q. v.*) are also ascribed to sympathy, and those which the sight of some animals is said to have upon some men.

CRISIS.

CRISIS in medicine; a point in a disease, at which a decided change for the better or worse, takes place. The crisis is most strongly marked in the case of acute diseases, and with strong patients; particularly if the course of the disease is not checked by energetic treatment. At the approach of a crisis, the disease appears to assume a more violent character, and the disturbance of the system reaches the highest point. If the change be for the better, the violent symptoms cease, with a copious perspiration, or some other discharge from the system. In cases where the discharge may have been too violent, and the nobler organs have been greatly deranged, or where the constitution is too weak to resist the disease, the patient's condition becomes worse.

In regular fevers, the crisis takes place on regular days, which are called *critical days*; sometimes, however, a little sooner or

later; according to the climate and the constitution of the patient. A bad turn often produces a crisis somewhat sooner. When the turn is favorable, the crisis frequently occurs a little later. After a salutary crisis, the patient feels himself relieved, and the dangerous symptoms cease.

SOMNAMBULISM.

SOMNAMBULISM designates the well known phenomena of sleep-walking. It is also used for a certain state of a person under the influence of animal magnetism. (*q. v.*)

The phenomena of sleep-walking, are very singular; the person affected performing many voluntary actions, implying a certain degree of perception of the presence of external objects. This affection is commonly considered as an imperfect degree of sleep. In the case of the somnambuli, says Dugald Stewart, the mind retains its power over the limbs, but possesses no influence over its own thoughts, and scarcely any over the body, excepting those particular members of it which are employed in walking. Sleep-walking is not unfrequently connected with the changes of the moon; when people will rise, walk about, do certain things, and go to bed again. The placing of a wet cloth by the side of the bed of such a person, so as to wake him immediately, when he steps on it, is recommended as a means of curing this habit.

The subject is very obscure, the cases not having been philosophically studied to a sufficient extent. As to somnambulism in animal magnetism, the votaries of this science believe that the brain, the peculiar seat of the higher faculties, rests during somnambulism, but that the vital power of the nervous system of the abdomen is heightened so much, that it can supply, in a degree, the place of the brain, and afford the means of perception. Hence, a letter placed on the stomach of a person in the state of somnambulism, can be read by him.

INJECTIONS.

INJECTIONS belong partly to surgery, and partly to anatomy. In surgery, fluids, different according to the different effects desired to be produced, are thrown, by means of a small syringe, into the natural cavities of the body, or those occasioned by disease, partly to remove unhealthy matter, and partly to bring the remedy immediately to the seat of the disorder, and thus effect a cure. Wounds and sores are usually cleansed in this way, when they extend far below the skin, or an excitement and cure are produced by the same method.

In diseases of the nose, and the cavities connected with it; in those which have their seat in the neck; in disorders of the ears, the bladder and urethra, the uterus and vagina, and for the radical cure of hydrocele, injections are often used, and with important advantages. Pure warm water is injected, with the highest success, for the removal of pus, blood, or even foreign bodies. Sometimes astringent medicines, to restrain excessive evacuations; sometimes stimulating ones, to excite inflammation, as in hydrocele, or even to increase and improve evacuations; sometimes soothing medicaments, to mitigate pain, etc., are added to the water. In diseases of the throat which hinder the patient from swallowing, and thus tend to produce death by starvation, nourishing fluids are injected into the stomach.

The blood of beasts, or of men, has been sometimes injected into the veins, which is called *transfusion*. In the same way, medicines are introduced immediately to the blood: for instance, tartar emetic, to excite vomiting, if a foreign body is fixed in the throat so firmly as to restrain the patient from swallowing, and can neither be moved up nor down. According to the place where the injection is to be made, the instrument must be either longer or shorter, a straight or a curved tube. The size is regulated by the quantity of the liquid to be injected, and the force which is to be applied. Anatomists inject into the vessels of bodies various colored fluids, which are liquid when hot, and coagulate when cold, to make the smaller ones visible. Thus, the arteries, veins, and lymphatic vessels, are injected. Anatomy has carried this art so far, as to make very minute vessels visible to the naked eye.

PREGNANCY.

PREGNANCY; the state of a female who is with child. Pregnancy begins at the moment of conception, and ceases with that of birth. During pregnancy, the vital activity, especially of the womb, which probably receives, a few days after conception, the fecundated vesicle, increases; the periodical discharge of blood ceases; but the vessels of the womb become enlarged, more charged with blood, longer and straighter. Its cellular substance becomes softer and more spongy, the sides thicker, the cavity wider. It loses the pear shape which it has when not impregnated, and becomes more globular; it sinks, during the first two months of pregnancy, lower into the pelvis; but, afterwards, rises and becomes larger, until, in the eighth month, the bottom of it can be felt, externally, in the region of the stomach. In the ninth month it sinks again somewhat. In these changes of the womb, the embryo develops itself, until it has reached, in the fortieth week, a sufficient degree of maturity to be able to live separate from the mother when the birth takes place, and pregnancy is at end; but the vital activity is increased in the state of pregnancy, not only in the womb, but in the whole body, with healthy and vigorous women. Pregnant women are bolder, more independent, more enterprising, stronger than before, and retain these qualities when they are mothers. They are more rarely affected by contagious diseases; consumption is checked during pregnancy, but makes more rapid progress after its completion. Hysteric women feel often uncommonly well during this period; the gouty are freed from their attacks; some become uncommonly fat. On the other hand, this state is, with many, particularly with feeble, delicate, sickly, too old, or too young women, often accompanied by a great many complaints which depend upon the altered state of the systems of the vessels and nerves. The stomach, particularly, often suffers; hence nausea, vomiting, a morbid loathing of, or craving for, particular dishes, which were, till then, indifferent. Pregnant women often suffer, also, by wandering pains, particularly in the teeth, and by coughing. Much inclination exists in the body to inflammation, and a heated state of the blood; the veins of the feet and

the posteriors are swelled. The mechanical pressure of the womb, thus changed in situation and form, not unfrequently causes irregularities in the discharges of the urine and excrements. All these changes serve as signs of pregnancy; other signs are the gradual and regular changes observed, at the opening of the womb, by internal examination; also the state of the breasts, which become larger during pregnancy, and in which a milky substance collects, but particularly the change of color round the nipple; lastly, the motion of the child felt by the mother in the second half of the period of pregnancy, and the perception of different parts of the fœtus by external and internal examination. It is very important to determine the fact of pregnancy at an early stage; but it is very difficult in some cases, particularly in the first half of the period, because there are a number of diseases of the abdomen which are attended with similar symptoms. Pregnancy, itself, is subject to a number of deviations from the ordinary course. The rules laid down to prevent injury to the embryo, and to preserve the health of the mother, have reference principally to air, nourishment, and exercise; to the natural desires, and preternatural longings, (the latter must be gratified with much caution;) to the passions which must be carefully restrained; to the imagination, because the whole nervous system may easily become over-excited; to the proper allowance of sleep and the disposition of dress, which must not press either the abdomen or the breast. All injuries from over-exertion or mechanical causes are to be carefully avoided, as falls, lifting, blows, etc., because they may easily occasion abortions. During pregnancy, care ought also to be taken that the breasts are fit, after the birth of the child, to nourish it. It is a mistaken idea that abortions take place much more frequently among the higher classes; the poorer classes, in populous cities, are quite as liable to them. In the country, where a purer air keeps the body always in a more vigorous state, abortions occur less frequently. The advice of experienced female friends, during the whole period of pregnancy, is, of course, of the greatest value; yet, in almost all countries, certain prejudices exist respecting this important state in a female's life, and the advice of a physician cannot be dispensed with. The internal examinations, mentioned above, are comparatively rare in England and the United States; but, in France, Germany, and Italy, if not throughout the European continent, they

belong to the regular course of medical attendance in the state of pregnancy. If every woman, during the eighth and ninth month, would apply our Stimulating Liniment to the abdominal region once a day, to the amount of a half a thimble full, she would find invaluable benefit therefrom. The child would be more vigorous and healthy, the labor pains would be much diminished, and the risk of miscarriage would be entirely overcome.

CHAP. V.

IRRITABILITY.

IRRITABILITY; (*irritabilitas*, from *irrato*, to provoke; *vis insita* of Haller; *vis vitalis* of Corter; *oscillation* of Boerhaave; *tonic power* of Stahl; *muscular power* of Bell; *inherent power* of Cullen;) the contractibility of muscular fibers, or a property peculiar to muscles, by which they contract, upon the application of certain *stimuli*, without a consciousness of action. This power may be seen in the tremulous contraction of muscles when lacerated, or when entirely separated from the body in operations. Even when the body is dead, to all appearance, and the nervous power is gone, this contractile power remains till the organization yields, and begins to be dissolved. It is by this inherent power that a cut muscle contracts, and leaves a gap; that a cut artery shrinks, and grows stiff after death. This irritability of muscle is so far independent of nerves, and so little connected with feeling, which is the province of the nerves, that, upon stimulating any muscle, by touching it with caustic, or irritating it with a sharp point, or driving the electric spark through it, or exciting with the metallic conductors, as those of silver or zinc, the muscle instantly contracts, although the nerve of that muscle be tied: although nerves be cut so as to separate the muscle entirely from all connection with the system; although the muscle be separated from the body; although the creature, upon which the experiment is performed, may have lost all sense of feeling, and have been long apparently dead. Thus a muscle, cut from the limb, trembles and palpitates a long time after; the heart, separated from the body, continues its peristaltic motion, so as to roll upon the table, ceasing to answer to *stimuli*, only when it becomes stiff and cold. Even in vegetables, as in the sensitive plant, this contractile power lives. Thence comes the distinction between

the *irritability* of muscles, and the *sensibility* of nerves ; for the irritability of muscles survives the animals, as when it is active after death : survives the life of the part, or the feelings of the whole system, as in universal palsy, where the vital motions continue entire and perfect, and where the muscles, though not obedient to the will, are subject to irregular and violent actions ; and it survives the connection with the rest of the system, as when animals very tenacious of life, are cut into parts : but *sensibility*, the property of the nerves, gives the various modifications of sense, as vision, hearing, and the rest ; gives also the general sense of pleasure or pain, and makes the system, according to its various conditions, feel vigorous and healthy, or weary and low. The eye feels and the skin feels ; but their appointed *stimuli* produce no motions in these parts ; they are sensible, but not irritable.

The heart, the intestines, the urinary bladder, and all the muscles of voluntary motion, answer to stimuli with a quick and forcible contraction ; and yet they hardly feel the stimuli by which these contractions are produced ; or at least they do not convey that feeling to the brain. There is no consciousness of present stimulus in those parts which are called into action by the impulse of the nerves, and at the command of the will ; so that muscular parts have all the irritability of the system, with but little feeling ; and that little owing to the nerves which enter into their substance ; while nerves have all the sensibility of the system, but no motion.

After every action in an irritable part, a state of rest, or cessation from motion, must take place, before the irritable part can be again incited to action. If, by an act of volition, we throw any of our muscles into action, that action can only be continued for a certain space of time. The muscle becomes relaxed, notwithstanding all our endeavors to the contrary, and remains a certain time in that relaxed state, before it can be again thrown into action. Each irritable part has stimuli which are peculiar to it, and which are intended to support its natural action ; thus blood is the stimulus proper to the heart and arteries ; but if, by any accident, it gets into the stomach ; it produces sickness or vomiting. The urine does not irritate the tender fabric of the kidneys, ureters or bladder, except in such a degree as to preserve their healthy action ; but if it be effused into the cellular membranes, it

brings on such a violent action of the vessels of these parts, as to produce gangrene. Such *stimuli* are called habitual stimuli of parts. Each irritable part differs from the rest in regard to the quantity of irritability which it possesses. This law explains to us the reason of the great diversity which we observe in the action of various irritable parts ; thus the muscles of voluntary motion can remain a long time in a state of action ; and if it be continued as long as possible, another considerable portion of time is required, before they regain the irritability they lost ; but the heart and arteries have a more short and sudden action, and their state of rest is equally so. The circular muscles of the intestines have also a quick action and short rest.

The action of every stimulus is in an inverse ratio to the frequency of its application. A small quantity of spirits, taken into the stomach, increases the action of its muscular coat, and also of its various vessels, so that digestion is thereby facilitated. If the same quantity, however, be taken frequently, it loses its effect. In order to produce the same effect as at first, a larger quantity is necessary ; and hence the origin of dram-drinking. The more the irritability of a part is accelerated, the more that part is disposed to be acted upon. It is on this account that the activity of all animals, while in perfect health, is much livelier in the morning than at any other part of the day ; for, during the night, the irritability of the whole frame, and especially that of the muscles destined for labor : viz. the muscles for voluntary action, is re-accumulated. The same law explains why digestion goes on more rapidly the first hour after food is swallowed, than at any other time ; and it also accounts for the great danger that accrues to a famished person upon first taking in food.

In German philosophy, *irritability*, *sensibility*, and *reproductivity*, constitute the whole of organic life. Since the time of Schelling, irritability is much considered in the mental philosophy of that country. The French, treating the subject merely with reference to physiology, generally use, at present, the word *contractility*, instead of *irritability*.

CLINICAL MEDICINE.

CLINICAL medicine teaches us to investigate at the bed-side of the sick, the true nature of the disease, in the phenomena presented; to note their course and termination; and to study the effects of the various modes of treatment, to which patients may be subjected. From this mode of study we learn the character of individual cases; theoretical study being competent to make us acquainted with species only. Clinical medicine demands, therefore, careful observations. It is, in fact, synonymous with experience. What advances would medicine have made, and from how many errors would it have been saved, if public instruction had always followed this natural course, so that pupils had received none but correct impressions, and distinct conceptions of the phenomena of disease, and had attained a practical knowledge of the application of those rules and precepts, which dogmatical instructions always leave indefinite!

We are unacquainted with the method of clinical instruction in medicine, which was followed by the Asclepiades, but we cannot help admiring the results of it, as exhibited to us in the writings of Hippocrates, who augmented the stores of experience inherited from them, by following in their steps. After his time, medicine ceased to be the property of particular families, and the path of experience, by which it had been rendered so valuable, was soon deserted. The slow process of anatomy and physiology, the almost constant study of the philosophy of Aristotle, and the endless disputes respecting the nature of man, of disease, and of remedies, occupied all the attention of the physicians; and the wise method of observing and describing diseases themselves, fell into disuse. Hospitals, at their vigor, served rather as means of displaying the benevolence of the early Christians, than of perfecting the study of medicine. The school of Alexandria was so celebrated, according to Ammianus Marcellinus, that a careful attendance upon its lessons, entitled the student to pursue the practice of medicine. Another old, and very thriving, although less known institution, was situated at Nisapour, in Persia; and hospitals, even before the flourishing period of the Arabians, to whom the happy idea is commonly ascribed, were united with

these medical institutions. The last school, founded by the emperor Aurelian, and superintended by Greek physicians, spread the doctrines of Hippocrates through all the East. It was supported for several centuries, and in it, without doubt, Rhazes, Ali Abbas Avicenna, and the other celebrated Arabian physicians, were instructed. At the same time, the celebrated John Mesne, of Damascus, was at the head of the hospital of Bagdad. Of the mode of instruction pursued there, we know nothing, but we are inclined to form no very elevated opinion of the systems of an age which was devoted to all the dreams of Arabian *polypharmacy*. In truth, medicine shared the fate of all the other natural sciences in the barbarous ages. Men were little disposed to acquire, slowly and cautiously, the knowledge of disease, at the bed-side of the sick, in the manner of the Greek physicians.

It appears probable, that the foundation of universities led to a renewed attention to the study of medical science; and we find, accordingly, that in Spain, even under the dominion of the Arabians, there were schools and hospitals, for the instruction of young physicians, at Seville, Toledo, and Cordova. But even then, clinical studies were almost wholly neglected. Instead of studying the history of diseases, the pupils occupied their time with the most unprofitable pursuits. Not much more advantageous were the journeys which were made, for the same objects, to Italy and France, in the eleventh and twelfth centuries. The schools of Paris and Montepelier were those principally resorted to; but in these, the instruction consisted simply of lectures, and endless commentaries upon the most obscure subjects; and even at the close of the fifteenth century, when the works of the Greek physicians began to be printed, men were still busied with verbal explanations and disputes. Two centuries elapsed before physicians returned to clinical studies and instructions. Among the renovators of this mode of studying medicine, may be named, in Holland, William Von Straten, Otho Heurnius, and the celebrated Sylvius, about the middle of the seventeenth century; and it is said that clinical instruction was given, at the same period, in the schools of Hamburg, Vienna, and Strasburg. Even Boerhaave, who succeeded Sylvius as clinical instructor at Leyden, in 1714, has left us no journals of daily observations of disease, but only academic discourses upon the general principles of medicine.

The influence of this celebrated school was first perceived at Edinburgh, and afterwards at Vienna, two schools, which, in celebrity for clinical instructions, soon eclipsed^r their common mother, the school at Leyden. Cullen, one of the most celebrated teachers of practical medicine at Edinburgh, was too fond of fine-spun theories upon the condition of the disease, structures of the body, and the proximate causes of disease, to follow a uniform method in his lectures, and to adopt the entire history of disease, as observed at the bed-side, as the basis of his system.

From the account of what was effected in clinical medicine in Italy, Germany, and France, in the course of the eighteenth century, we may discover both the constantly increasing attention to this department of knowledge, and the difficulties with which such institutions are obliged to contend. The Vienna school, by means of the labors of Van Swieten, De Haen, and, still more, of Stolt and of Franck, became a model of clinical study, since public lectures were given in the hospital, and the simplicity of Grecian medicine successfully inculcated. The practice and study of medicine, in the hospitals in France, was only an indirect mode of gaining public confidence, till the period of the general revival of science, and the erection of the French *Ecole de Sancte*. In that, for the first time, clinical instruction was expressly commanded. At the present day, every good school has its establishment for clinical medicine connected with it; that is, a hospital, in which diseases can be seen and studied by those attending it.

In Germany, the empirical, or experimental mode of studying medicine, was early given up for the more scientific form of lectures; while in England and France, the opposite extreme took place, and students were carried, as they sometimes are still, to the bed-side of the sick, before they had been properly grounded in elementary studies. In Germany, there are very numerous journals, which contain clinical reports of cases, as there are so many clinical institutions appropriated to particular classes of disease. In the American schools, clinical instruction is almost wholly overlooked, although some slight lectures of this description are given by the physicians of hospitals. The clinical school is called *ambulatory*, when the patients attend only at particular hours; and it is termed *polyclinic*, when the instructor and his pupils visit together the beds of the sick.

CONTAGION.

THIS word properly imports the application of any poisonous matter to the body through the medium of touch. It is applied to the action of those very subtile particles arising from putrid substances, or from persons laboring under certain diseases, which communicate the disease to others; as, the contagion of putrid fever, the effluvia of dead animal or vegetable substances, the miasmata of bogs and fens, the virus of small-pox, lues venera, etc., etc.

The principal diseases excited by poisonous miasmata, are, intermittent, remittent, and yellow fevers, dysentery, and typhus. The last is generated in the human body itself, and is sometimes called the *typhoid fomes*. Some miasmata are produced from moist vegetable matter, in some unknown state of decomposition. The contagious virus of the plague, small-pox, measles, chincough, cynanche maligna, and scarlet fever, as well as of typhus and the jail fever, operates to a much more limited distance through the medium of the atmosphere, than the marsh miasmata. Contact of a diseased person is said to be necessary for the communication of plague, and an approach within two or three yards of him, for that of typhus. The Walcheron miasmata extended their pestilential influence to vessels riding at anchor, fully a quarter of a mile from the shore.

The chymical nature of all these poisonous effluvia is little understood. They undoubtedly consist, however, of hydrogen, united with sulphur, phosphorus, carbon, and azote, in unknown proportions and unknown states of combination. The proper neutralizers or destroyers of these gasiform poisons are, nitric acid vapor, muriatic acid gas, and chlorine. The two last are the most efficacious, but require to be used in situations from which the patients can be removed at the time of the application. Nitric acid vapor may, however, be diffused in the apartments of the sick, without much inconvenience. Bed-clothes, particularly blankets, can retain the contagious *fomes*, in an active state, for almost any length of time. Hence, they ought to be fumigated, with peculiar care. The vapor of burning sulphur or sulphurous acid, is

used in the East, against the plague. It is much inferior in power to the other antiloimic reagents.

There does not appear to be any distinction commonly made between contagious and infectious diseases. The infection communicated by diseased persons, is usually so communicated by the product of the disease itself; for instance, by the matter of the small-pox; and, therefore, many of these diseases are infectious only when they have already produced such matter, but not in their earlier period. In many of them, contact with the diseased person is necessary for infection, as is the case with the itch, syphilis, and canine madness; in other contagious diseases, even the air may convey the infection; as in the scarlet fever, the measles, the contagious typhus, etc. In this consists the whole difference between the fixed and volatile contagions. A real infection requires always a certain susceptibility of the healthy individual; and many infectious maladies destroy, forever, this susceptibility of the same contagion in the individual, and, accordingly, attack a person only once, as the small-pox, measles, etc. Other contagious diseases do not produce this effect, and may, therefore repeatedly attack the same persons; as typhus, itch, syphilis, and others. Sometimes one contagious disease destroys the susceptibility for another; as the kine-pox for the small-pox.

In general, those parts of the body which are covered with the most delicate skin, are most susceptible to contagion; and still more so are wounded parts deprived of the epidermis. Against those contagious diseases which are infectious through the medium of the air, precaution may be taken by keeping at the greatest possible distance from the sick, by cleanliness, and fearlessness; but most completely by the vigilance of the health officer, by fumigations according to the prescriptions of Guyton Morvea, etc. We can more easily secure ourselves against such contagious diseases as are infectious only in case of contact, by means of cleanliness, caution in the use of vessels for eating and drinking, of tobacco-pipes, of wind-instruments, beds and clothes. No general preservative against contagious diseases is known, though many are offered for sale by quacks. The examination of the persons intended for nurses and tenders of infants is very necessary, as thousands of children may be infected by contact with them, and the cause of the disorder remain unknown.

ANTIDOTES.

ANTIDOTES, from two Greek words, *signifying given against*; the means of counteracting the effects of poisons. The term *antidote* had, formerly, a much wider signification, and was applied to the remedies for diseases occurring from natural causes, as well as to the remedies for the derangement of the functions arising from the direct introduction into the system of a known and material poison. Doubtless every disease may be looked upon as springing from some poison, as fevers from an altered and unhealthy state of the atmosphere, or eruptive and contagious diseases from the vitiated fluids or breath of one individual communicated to another, as small-pox and hooping-cough. This opinion is expressed by the employment of the term *virus*, or *poison*, to signify the immediate cause of such diseases, as when we speak of the small-pox virus, or the vaccine virus. But as, in the present day, the word antidote is used only to signify the means of counteracting the effects of poisons, strictly so called, we shall confine our observations to what is properly comprehended under the term when employed in this sense. While thus limiting its signification, it is equally necessary that we should limit the application of the word poison. It is, however, extremely difficult to define what a poison is. Fodere considered poisons to be those substances known to be capable of rapidly altering or destroying some or all of the functions necessary to life. This must be understood to apply to their introduction (whether accidentally, intentionally on the part of the person suffering, or criminally on the part of others) into the body when in the usual state of health; for there are certain diseased conditions of the systems which seem to render it incapable of being injuriously affected by doses of medicines which at another time would speedily destroy life; and other states, such as when the body is under the influence of one poison, where another proves the most effectual remedy or antidote. This latter state is strikingly exemplified in the case of the bite of the *coluber carinatus*, a species of snake common in the West Indies, during the state of stupor or insensibility occasioned by which, a large quantity of arsenic may be given, not only with safety, but with

such advantage that the recovery of the patient may be considered as owing solely to it. To acquire a correct idea of the different ways in which poisons operate in destroying life, we must be made aware that what we commonly regard as an individual is made up of a number of distinct organs, which, though in some respects independent of each other, yet exert a reciprocal influence, the harmonious play of the whole being necessary to the continuous exercise or display of the principle of life, and that a cessation of the functions of any one of the more important organs necessitates the successive suspension of the rest. The most essential of those are consequently denominated the *vital functions*, viz: the circulation, respiration, and enervation.

The circulation of red or arterial blood through the system, but especially through the nervous matter of the brain and spinal cord, is essential to the existence of the vital properties and due performance of the functions of the different organs—which circulation is effected by the action of the *heart*; while, to render the blood arterial, respiration is necessary; and this is effected by the *lungs*, assisted by a great number of muscles, the co-operation or simultaneous action of which is occasioned by the influence of the *spinal cord* directed or influenced by the brain. Now, certain poisons act either solely on one of the organs and functions or upon two or three, but always in an ascertained order or uniform succession. Oxalic acid, (or the acid of sugar, as it is properly called,) for example, in a small dose, acts first on the brain and spinal cord; but, in a larger dose, also affects the heart. In the former case, the respiration will be perceptibly interfered with, while the heart will go on acting, for some time; in the latter case, both will cease at the same moment. Recovery, therefore, is much more probable in the first instance than in the second, for we can carry on *artificial* respiration till the brain and spinal cord have resumed the exercise of their functions; but if, as in the second instance, the heart also has ceased to act, recovery is impossible.

An arrangement of poisons, according to their mode of action, *i. e.* according to the order in which the vital functions are successfully affected and destroyed by them, would be of great utility in regulating our treatment, teaching us when to be content with the employment of antidotes alone, and when to employ supplementary means—as artificial respiration, blood-letting, etc. At

present we can only make an approximation to such an arrangement. Another point of consequence is the settlement of the question, do poisons act solely on the sentient extremities of the nerves of the part to which they are applied, and influence remote organs, only by sympathy : or are they absorbed into the circulatory fluids, and by them carried to the organs whose impaired or suspended functions show them to be markedly affected by them ? Without entering into this dispute, it may be stated that some poisons act in the one way, some in the other way, and a few in both. Of these, the first set are the most formidable and the most speedy in their action, allowing little time for the employment of antidotes. Some poisons act, but with different degrees of violence and speed, whatever part of the body they are applied to ; others again, only when received into the stomach or intestines ; while some, such as the poison of the viper, are quite powerless when swallowed.

Of all parts of the body, the brain and nervous substances are the least susceptible of the action of poisons, when applied elsewhere. With respect to the local operation of poisons, *i. e.* their direct action on the part to which they are applied, some decompose chimically, or alter the structure of (corrode) the part which they touch, and hence they are called *corrosive* poisons ; such are the mineral acids of which sulphuric or oil of vitriol may serve as an example. Besides this local effect, many of the corrosive poisons act speedily upon remote organs, the impaired functions of which may become a source of greater danger than the destruction of the part first attacked. Other poisons, without immediately altering the structure of the part, irritate it so that inflammation ensues, by which it is altered, and the general system affected as it would be by inflammation of the same part arising from any other cause, even when the poisonous substance does not produce any immediate or powerful effect upon a remote organ—which is not often the case, as most of them influence some of the vital functions, and thus prove fatal. Those are termed irritant poisons, such as arsenic ; but they are frequently also termed corrosive, though inaccurately. Lastly, there are poisons which neither corrode nor irritate the part, but cause a peculiar impression upon the sentient extremities of the nerves, which is conveyed along these to some remote organ or organs, the functions of which

they impair and suspend. Many of these should be termed sedatives, in the strictest sense of the word ; others are narcotics ; and those which produce some degree of local irritation, are termed narcotico-acrids. But one and the same article, according to the dose and mode of administration, acts in all the three ways ; tobacco for example. The selection of appropriate means to counteract the effects of poisons, must be determined by a knowledge of the manner in which each particular poison acts ; but, as we cannot enumerate or specify these here, we shall give only general rules to this effect. These may be reduced to three, viz. 1st, To remove the poisonous substance. 2nd. To prevent or limit its local effect. 3d. To obviate its effect on remote organs, supporting their action by appropriate measures, till the injurious impression has subsided. The first of these is to be accomplished mostly by mechanical means. If the poison has been applied to any external part, as by the bite of a viper or a rattle-snake, a cupping glass, or what will answer as well, a wine-glass, tumbler, or cup of any kind, from which a part of the air has been expelled, by holding within it a lighted candle for a second of time, should be immediately applied. If the poison has been taken into the stomach, and is yet of a kind to arrest instantly the action of the heart, its removal is to be attempted by the stomach-pump, or by exciting vomiting. The stomach-pump cannot well be used without introducing into the stomach a considerable quantity of water, which, by diluting the poison, lessens its violence, in all cases, except that of oxalic acid. The stomach-pump is also to be preferred in the case of narcotic poisons, as the insensibility which they occasion prevents the stomach from being affected by emetics. But, should a stomach-pump not be at hand, nor any one be present skilled in the use of it, we must attempt to produce vomiting by every means in our power.

For this purpose, a table spoonful of flour of mustard, which is mostly to be found in every house, may be put into a tumbler of warm water and given to the patient, or a scruple of sulphate of zinc, (whetito-vitrio,) dissolved in a pint of any distilled water ; or ten grains of sulphate of copper dissolved in half a pint of any distilled water, as cinnamon, may be drank by the patient, and the disposition to vomit encouraged, by tickling the throat with a feather, and pressing on the pit of the stomach.

Neither ipecacuanha nor tartar emetic should be given, as their action is always preceded by much nausea, during which the absorption of the poison is often facilitated. Where the poison is of a corrosive or irritant nature, instead of losing time in seeking the means of causing vomiting, it is in general advisable to adopt the second rule, and attempt to prevent its local, and thereby its remote effects.

To accomplish this, we must ascertain what the poisonous substance was from which the patient is suffering, and must also know how it acts, as upon this depends the success of our treatment. The objects we have in view are either to dilate and so weaken it as to supply, from an external source, the particular principle which the poison would subtract from the coats of the stomach, or by adding something to it, and so change its nature as to render it comparatively, or altogether harmless, which last will always be effected if we can succeed in forming an insoluble compound. The first may be done by giving plenty of warm water; and when we know the particular poison, if the warm water can be made the vehicle of an antidote, the second or third object will also be ensured. Suppose sulphuric acid (oil of vitriol) has been swallowed, add to the water, chalk, magnesia, or soap; the chalk will make, without the acid, sulphate of lime, which, being insoluble, will do no harm, while, with the magnesia, the acid will form sulphate of magnesia, (Epsom salt,) and, with the soap, sulphate of potash, both of which are purgative salts, and will, by their action on the bowels, assist in lessening the inflammation caused by the poison before it was decomposed. So when sugar of lead (acetate of lead) is swallowed, by giving Epsom salts, we form an insoluble sulphate of lead, which will be discharged by the bowels, operated upon by the magnesia, which has been freed from sulphuric acid. Corrosive sublimate (chloride of mercury) abstracts from the coats of the stomach the albumen which they contain, by which it is converted into proto chloride, or calomel; now, if by giving white of an egg, which is pure albumen, we supply it with the principle which it would otherwise obtain from the coats of the stomach, we shall preserve these entire. Such means, then, are antidotes, properly speaking; for the means by which the secondary or remote effects are to be combatted, deserve rather to be termed counter poisons. The counter poisons are of no small

value in cases of poisoning by the corrosive and irritants, while they are of the utmost importance in the treatment of the sedative and narcotic poisons. To administer these appropriately, we must know which of the vital organs the poison most speedily affects. When it affects the heart, the symptoms greatly resemble syncope, (or fainting;) and, as such poisons are the most dangerous, agents which act as rapidly as the poisons are alone to be trusted to; such agents are to be found among the diffusible stimuli; ammonia, or its carbonate, *i. e.*, smelling salts, applied to the nostrils, or dissolved in water and taken into the stomach; warm brandy and water, etc., where it chiefly affects the spinal marrow, there occur spasms and difficulty of breathing; and, when the brain, there is a partial or complete insensibility, (coma,) often with, at first, full pulse, flushed face, and labored breathing, resembling apoplexy. In such a state of affairs, artificial respiration, and afterwards bleeding, with the subsequent administration of coffee or vinegar, greatly contribute to save the patient. We have not spoken here of gaseous poisons, which would lead to unnecessary details. They act either by excluding the common atmospheric air, in which case removal into pure air is required, or by producing inflammation like the irritant, or oppression of the brain like the narcotic poisons, and are to be combatted on similar principles. It will be more useful to append a list of the poisons which act on the brain, and of those which act on the heart. Of poisons which act upon the brain, the most common are alcohol, *i. e.*, spirituous liquors, opium, henbane, hemlock, camphor, and essential oil of almonds, and of tobacco. Of those acting on the heart, the chief are infusion of tobacco and large doses of Prussic acid, fox glove, strychnia, (principle of *nux vomica*,) oxalic acid, arsenic, preparation or salts of antimony and of baryta, and several animal poisons.

From what has been said on this subject, the great necessity of an acquaintance with it must be sufficiently clear not only to ensure our doing right, but to prevent us from doing wrong. By administering an ill-timed antidote, (as we conceive it to be,) we often hasten the fatal event; as where vinegar is given, when opium has been swallowed, before it has been ejected from the stomach; and, by throwing tobacco smoke into the stomach of a person apparently drowned, we extinguish the feeble spark of life

which might have sufficed to reanimate him but for such injudicious interference. It is to be hoped that more just principles of treatment will be diffused among the people, as well as among medical men, by which many lives may be preserved to their families and to the community.

ANIMAL AND VEGETABLE NUTRITION.

ANIMAL and vegetable matters constitute the food of animals and vegetables; yet these matters nourish neither the animal nor vegetable, until they have undergone certain preparatory processes, and are reduced to a fluid state. Solid substances, so long as they remain solid, can benefit neither.

The soil is to plants what the stomach is to animals—the recipient of food—where it undergoes its first process of preparation, is broken down and blended with a solvent liquid.

The spongeoles, or small roots of the plants, like the lacteals of the animal, take up the digested food, and send it to the leaves, as the lacteals do the lungs, for its perfect preparation as food.

Leaves are to plants what lungs are to animals—the organs of respiration. The lungs retain oxygen, and give off carbon. The leaves part with oxygen, and inhale carbon when the sun shines upon them, and imbibe oxygen when it does not. Leaves are, in summer, as necessary to the health and growth of the vegetable, as lungs are to the health and growth of the animal.

Heat, air, and water are essential in all the processes of nutrition, vegetable as well as animal.

The ordinary temperature of the animal stomach is 98 degrees—hence animal digestion does not abate for want of heat. The decomposition of vegetable food, in the soil, ceases when the thermometer sinks below 40 degrees, and is most active at the temperature of 80 degrees.

Neither lungs nor leaves can perform their office healthfully, without access to fresh air, nor can decomposition take place without air.

Water is a necessary solvent in the preparation of vegetable and animal food for the delicate mouths of the lacteals and spongeoles, and is no less indispensable as a medium of transmitting the food

to the lungs and the leaves, and from thence through the animal and vegetable structures.

After the blood of the animal has been perfected in the lungs, it is conducted, by minute arteries, to every part of the body, and is transmuted into flesh, etc. After the sap has been elaborated in the leaves, it is conveyed, in like manner, to every part of the plant, and is then converted into wood, fruit, etc.

Vegetables, like animals, may be injured by an excess of food; and when food is too concentrated, or too rich, the lacteals and the spongeoles become clogged, and unfit to transmit aliment to the lungs or leaves.

A seed may be compared to an egg. One contains the germ of a chick, the other the germ of a plant. Nature has provided in their envelopes, the food proper for both, in infancy, and until they can provide for themselves. Through the agency of heat and air, the chick becomes animated, grows, and bursts its shell; and the seed germinates, grows, and bursts the earth. Both seem to require the exclusion of light.

The elementary matters found in animals and vegetables are nearly the same—the animal contains the most nitrogen, the vegetable the most carbon. Lime and iron are found in both.

And in both, the power and the habit exist, of throwing off, through their excretory organs, matters blended with their food, not fitted to their wants, or not assimilating with the elements of their structure. Plants often exhale, or give off, like some animals, a strong odor.

As weeds are more commonly natural to the soil than cultivated crops, they are grosser feeders, and consume more food than the latter. Hence, they should not be permitted to rob the crops.

SALINE BATH.

THE Saline Bath has lately been brought into pretty extensive use, by a number of physicians who have adopted our remedies, with the most salutary effect. In chronic diseases, where the system has become morbid, and where the liniments are not brought into full operation by the usual application, the Saline bath is found to answer a most valuable purpose. The mode of prepar-

ing it is as follows: Warm the water, and add salt enough to make a common brine, and fill a bathing-tub two-thirds full; let it be as hot as the patient can bear; immerse the patient, and use the flesh-brush and friction with the hand freely while so immersed, which may be continued from five to fifteen minutes, according to the strength of the patient; then wipe dry with flannel, and apply the liniment over the whole surface of the body. Much benefit has also been gained by a similar process in cases of fever and bilious cholic, rheumatisms, cramps, etc.

APPLICATION OF GALVANISM TO POISONED WOUNDS.

IN Germany, a variety of experiments have been made, proving the successful application of galvanism, in place of caustics, to poisoned wounds. We shall mention some of them:—

1. A dog had lately been bitten by a mad one, in the chest, causing a wound of two inches. After a lapse of fifty-four hours, the wound having dried up, it was for half an hour exposed to the influence of a galvanic battery of forty small plates. This application seemed to cause considerable pain, and produce the discharge of some blood from the wound; subsequently a thick crust formed on it, which fell off on the eleventh day; on the sixteenth day, the wound was completely healed, and the dog remained well.

2. The poisonous saliva of the dog which had inflicted the above wound, was inoculated in both legs of another dog. After the lapse of fifty-four hours, galvanism was applied to the wound caused by the inoculation; the crust formed over it fell off on the eighth day, on the twelfth day it perfectly healed, and the dog kept well.

3. Another dog, inoculated with the same saliva as the last, was left to his fate, and died within ten days, of hydrophobia. From these and similar experiments, Doctor Peavaz draws the following results:

1. Because he was still successful after an interval of fifty-four hours, physicians have sufficient time, in case of accident, to procure a galvanic battery.

2. As the galvanic fluid operates also at some distance, he advises its application also to deep wounds with fistulas, notwithstanding the application of caustics.

3. That, by its peculiar nature, galvanism affords the advantage of destroying the poison even at some distance, and that it greatly counteracts absorption, by causing a contraction of the capillary vessels.

GRANULATION.

THE little grain-like fleshy bodies which form on the surfaces of ulcers and suppurating wounds, and serve both for filling up the cavities and bringing nearer together and uniting their sides, are called *granulations*. Nature is active in bringing parts whose disposition, action, and structure, have been altered by accident or disease, as nearly as possible to their original state; and after having, in her operations for this purpose, formed pus, she immediately sets about forming a new matter upon surfaces in which there has been a breach of continuity. This process has received the name of *granulating*, or incarnation. The color of healthy granulations is a deep florid red. When livid, they are unhealthy, and have only a languid circulation. Healthy granulations on an exposed or flat surface, rise nearly even with the surface of the surrounding skin, and often a little higher; but when they exceed this, and assume a growing disposition, they are unhealthy, soft, spongy, and without any disposition to form skin. Healthy granulations are always prone to unite.

In all cases where the wounds above mentioned produce an unhealthy pus, or are inclined to fungus flesh, our Stimulating Lini-ment, applied directly to the wound, though severe at first, is an invaluable application. It uniformly produces a healthy action, and expedites a cure.

HEREDITARY DISEASE.

THE influence of the parents on the organization of the child is so great, that even the individual peculiarities which distinguish

one man from another, are, in part at least, transmitted to his children; hence the similarity in person and looks of the child to its parents. The internal organs, too, as well as the external form, have the same resemblance; so that the peculiar constitution, the greater or less activity and development of these organs, are found to pass from parent to child. Now, as it is the particular state of the several organs and functions in which a very great part of disease have their foundation, it follows, that these diseases may be inherited, and, in fact, it has been observed, that the son is not unfrequently attacked by a disease, at the same period of life in which his father was. These diseases are called *hereditary*; but it is only the predisposition to them that is, properly speaking, inherited. Hence the actual development of hereditary disease requires certain co-operating circumstances. Constitutional diseases are very often not hereditary, but depend on circumstances which affect the fœtus during pregnancy. The father has no influence on the child, beyond the act of generation; the mother operates upon it during pregnancy, and it is possible that hereby occasion may be given to hereditary disease. Among the diseases which are most frequently hereditary, are scrofula, bleeding, hemorrhoids, consumption, gout, the gravel and stone, scirrhus and cancers, disorders of the mind and spirits, hysterical and hypochondriac affections, apoplexy, epilepsy, and organic diseases of particular parts, especially of the heart. They have this peculiarity, that they are produced, and appear as constitutional diseases, more from the action of internal than of external, of predisposing than of occasional causes. Such diseases are much more difficult to reach and to cure, than those which originate in accidental external causes. Hence it is especially necessary to prevent in season their growth and development. The means of doing this, are the following:

1. Whoever has a hereditary predisposition to any disease, should not marry one who has the same constitution. For this reason, marriages between near relations are not advisable, as tending to perpetuate such hereditary diseases. This, too, appears to be the reason why attachments are generally formed between persons of opposite constitution and different temperament.

2. We ought to order all the circumstances in which the child

grows up in such a way that the inherited predisposition may not only not be favored, but counteracted.

3. The accidental occasions which favor the growth of the disease, should be avoided, especially at the time of life in which the father was attacked by it. The medical treatment of hereditary diseases is not essentially different from that which is requisite in the same diseases arising under different circumstances.

HISTORY OF THE SMALL POX.

OF the numerous diseases to which mankind are exposed, the class denominated epidemic, or spreading diseases, is attended with the most alarming interest. A malady of this sort may take its origin in the remotest district of an extensive country, and yet, if its progress be independent of the peculiarities of soil and climate, it may soon come to overrun the whole. In the same way, although a spreading malady commence in one hemisphere of the globe, it may, after a time, invade the other, and its ravages know ultimately no bound, save those of human intercourse, and human existence. Those spreading diseases, from the great havoc they often commit, have been commonly known by the name of "plagues" and "pestilences." The word *plague* is apt to convey, to an unprofessional person, a very indefinite idea of some great calamity, which he is unable to describe; but in reality, it is neither more nor less than a fever. All plagues, in medical language, are understood to have been fevers; and they are distinguished one from the other, by their *types*, or peculiar character of their symptoms. Thus, the Egyptian plague is a fever, which bears a strong resemblance to ordinary typhus, in producing an extreme depression of the constitutional powers of the patient; and it is distinguished from typhus, by being attended with swellings of the glands, in different parts of the body. The plague of London, which, in 1665, destroyed, within the bills of mortality, eight thousand persons in one week, was similar to that of Egypt. Varieties of the same virulent epidemic, are probably pointed at in the writings of Thucydides and Galen, as having prevailed in the earlier ages, at Athens and Rome. At all events, it seems certain, that during nearly one half of the sixth century, and a

several periods since, large portions of Europe, and of Asia, were devastated by the Egyptian scourge.

Small pox is a plague which, previous to the practice of vaccination, exercised a still more destructive power, even than the preceding disease; but it does not appear that the physicians of ancient Greece or Rome, were at all acquainted with the small pox. For the traces of its earlier progress, we must look farther east.

In the traditions of the people of China and Hindostan, small pox was enumerated as one of their common diseases; and in some of their earliest books, devoted to religion and philosophy, descriptions of it have been found to exist. China or Hindostan, then, must be considered the cradle of small pox. We have no means, however, of ascertaining in which of the two it first appeared, or of offering a rational conjecture, to explain the manner of its first production, beyond the fact, that these countries have, from remote ages, swarmed with inhabitants, and been subject to dreadful inroads from famine, circumstances of themselves, eminently favorable to the generation of pestilence.

According to the Chinese and Brahminical authorities, there is written evidence to show that small pox had been established in their respective countries, during a period of three thousand years and upwards. Although it had prevailed so long in China and Hindostan, the first notice of its appearance in Western Asia, cannot be dated earlier than the middle of the sixth century, and Europe was not invaded until a later period. The epoch to which we allude, as the recorded commencement of its western ravages, was the year 569, when the city of Mecca, in Arabia, was besieged by an army of Abyssian christians, under the command of Abreha, with the expectation of being able destroy the kaaba or pagan temple, contained within that city. In this army the small pox committed dreadful havoc, and we are told that measles made its appearance there at the same time. From the siege of Mecca, A. D. 569, to the siege of Alexandria, in 639, not any of the Arabian records that have come down to us, make mention of the progress of small pox. During this interval, however, the disease was undoubtedly propagated in various directions, in the wake of the victorious Arabs, who were assembled and led forth to war, under the banner of their prophet. War has ever been the ready disseminator of pestilence, and as Persia and Syria were soon after-

wards subdued by the successors of Mohammed, we may fairly conclude that small pox was imported, with its conquerors, into these countries, if it had not previously reached them. On the other hand, Amron, the lieutenant of the Caliph Omar, invaded Egypt in 638. In two years he captured Alexandria. It is conjectured that small pox was communicated by the Mohammedan troops, to the inhabitants of this city, during the siege. Ahron, an author who lived in Alexandria at the time, wrote a treatise on small pox, to which Rhazes, the distinguished Arabian physician, alludes. Unfortunately, Ahron's work has since been lost. The rapid and prolonged success, which now attended the Saracens by land and sea, opened new channels for the diffusion of small pox; and in attempting to follow its progress westward, along the shores of the Mediterranean, we have no more certain guide than the chronological details of Saracenic conquest. Okba Ebn Nafe, the general of Amron, subdued that portion of Africa lying between Barka and Zorveliah, including what now constitutes the piratical state of Tripoli. To him succeeded others, who pushed the dominion of the Saracens still further. In 712, their armies made a descent on Spain. After defeating Roderick, the last king of the Goths, they took Toledo, and eventually overrun the whole country. About the year 732 the Saracens crossed the Pyrenees. Consequently, with the period of this invasion, we may date the introduction of small pox into that kingdom. Small pox probably reached Britain about the beginning of the ninth century; but no distinct notice of this disease, is furnished by the writers of the time. Sunk in the ignorance of the middle ages, they allowed the worst scourge that had ever thinned the human race, to pass without description; or if mentioned at all in their meagre chronicles, it is only under the name of "plague," or of "consuming fire;" epithets then apparently applied to eruptive pestilence in common. When small pox enters a locality where it had not been before, its first effects are almost always more extensively destructive than any subsequent. Happily, in the present day, we can form, from our own experience, no conception of the mortality, that in all probability marked its early course in England.

A deadly pestilence, to one attack of which, every individual, in every rank in life, the highest as well as the lowest, is liable,

must necessarily have filled the country, from one extremity to the other, with sickness and with death. To aggravate the occurrence of such an evil, no disease is, in itself, more loathsome than small pox. The victim of the attack, more particularly in the confluent variety, presents a most pitiable spectacle. In this form the patient is seen laboring under a fever with the most typhoid or putrid symptoms. He is, at the same time, completely covered from head to heel with pustules, which not unfrequently coalesce, and ultimately change the whole surface of his body into one continued sore, that renders his features undistinguishable to his dearest friends, and converts him into an object of disgust to their senses. Nor are the immediate sufferings and danger of death the only misfortunes attendant on small pox. In case the patient linger through the fever, or finally survive the attack, it is often at the sacrifice of every thing considered desirable in personal appearance. Beauty may be transformed into deformity; and what is of far greater importance, by the loss of sight, the patient may be condemned to pass the remainder of his life in total darkness. Countries which have received small pox comparatively in modern times, afford striking examples of the magnitude of the calamity in its unmitigated terrors. In 1517, St. Domingo was infected. The island then contained, it is said, a million of Indians; but this unfortunate people were altogether destroyed by small pox, and the murderous arms of their Spanish invaders. About 1520, small pox commenced in Cuba. From thence it was carried to Mexico. Within a short period, according to computations that have been made, the pestilence destroyed in the kingdom of Mexico alone, three millions and a half of the inhabitants. The emperor, brother and successor to Montezuma, was among the victims. At subsequent periods, different parts of the American continent suffered much. Whole nations of warlike Indians were almost extirpated, and piles of bones, found under the tufted trees in the interior of the country, have been supposed to bear testimony to the ravages of small pox. Peculiarities of climate exercise no mollifying influence over the virulence of small pox. Iceland was invaded in the year 1707, and it suffered as much as the southern regions. The inroad destroyed sixteen thousand persons, more than a fourth of the estimated population of the island. Greenland escaped until 1733. In that year small pox appeared.

and carried off nearly all its inhabitants. Small pox is now familiar to every section of the globe ; but we hear of it no longer as a scourge to sweep away the population of an extensive district, with a rapidity and power approaching to those of the tornado. The beneficent Providence, which, for the fulfilment of its own mysterious purposes, tolerates the growth and extension of numerous plagues, has placed within the reach of human intelligence, numerous remedies, capable either of alleviating or of completely obviating their dangerous effect. Without the aid of inoculation and vaccination, it is calculated that at least one-fourteenth of every generation of mankind would perish beneath the deadly taint of small pox ; but that were inoculation generally practiced, the mortality would not amount to one in seventy of those on whom the operation had been performed ; and under the protective influence of vaccination, that one death is not to be expected in many hundreds of persons so treated. Inoculation has, of late years, been wisely abandoned by the medical profession. Vaccination is recommended in its stead.

REMARK.—We are assured that our remedies have proved effectual in a number of cases of small pox and varioloid, where these diseases appeared as an epidemic. Our correspondents assure us that they have been enabled to overcome the disease with much ease, and that no failures have occurred. It is a long time since we have known that our remedies would cure the scarlet fever, chicken pox and measles. The number of small children who have been benefitted in our own city is very considerable ; in fact, we know not of a single failure.

ANATOMY.

THE polypus receives new life from the knife which is lifted to destroy it. The fly-spider lays an egg as large as itself. There are 4041 muscles in a caterpillar. Hook discovered 14,000 mirrors in the eyes of a drone, and to effect the respiration of a carp, 12,000 arteries, veins, and bones, etc., are necessary. The body of every spider contains four little masses, pierced with a multitude of imperceptible holes, each one permitting the passage of a single

thread; all the threads, to the amount of 1000 to each mass, are joined together when they come out, and make the single threads with which the spider spins its web; so that which we call a spider's thread consists of more than 1000 united. Lewenhock, by means of a microscope, observed spiders no bigger than a grain of sand, who spun thread so fine, that it took 4000 of them to equal in magnitude a single hair.

How great must be that being, whose continual supervision upholds in existence all the workmanship of his hands of such vast disproportions in magnitude!

THE PULSE.

THE pulse is nothing more than the beating of an artery. Every time the heart contracts, a portion of blood is forced into the arteries, which dilate or swell to let it pass, and then immediately regain their former size, until, by a second stroke of the same organ, a fresh column of blood is pushed through them, when a similar action is repeated. This swelling and contracting of the arteries, then, constitute the pulse, and consequently it may be found in every part of the body where those vessels run near enough to the surface to be felt. Physicians look for it at the wrist, from motives of convenience.

The strength and velocity of the pulse vary much in different persons, even in a state of perfect health. It is much quicker in children than in adults; and in old men it grows slow and feeble, owing to the decreased energy of the heart. The pulse is increased both in strength and velocity by running, walking, riding and jumping; by eating, drinking, singing, speaking, and by joy, anger, etc. It is diminished in like manner by fear, want of nourishment, melancholy, excessive evacuations, or by whatever tends to debilitate the system.

In feeling the pulse, then, of sick persons, allowance should be made for these causes; or what is better, we should wait until their temporary effects have escaped.

A full, tense, and strong pulse, is when the artery swells boldly under the finger, and resists its pressure more or less; if, in addi-

tion to this, the pulsation be very rapid, it is called quick, full, and strong; if slow, the contrary.

A hard, corded pulse, is that in which the artery feels like the string of a violin, or a piece of tightened cat-gut, giving considerable resistance to the pressure of the finger.

The soft and intermitting pulses are easily known by their names. In case of extreme debility, on the approach of death, and in some particular diseases, the artery vibrates under the finger like a thread.

In feeling the pulse, three or four fingers should be laid on it at once. The most convenient spot to do this, as already mentioned, is the wrist; but it can be readily done in the temple, just before, and close to the ear, in the bend of the arm, at the under part of the lower end of the thigh, among the ham-strings, and on the top of the foot.

There are two kinds of blood-vessels in the human body—arteries, and veins. The arteries carry the blood from the heart to the extremities of the body, where they are connected with the veins, which bring it back. An artery pulsates, or beats; a vein does not.

LIFE OF MAN.

THE following curious observations on the duration of the life of man, as shown by the bills of mortality of various countries, is translated from the French:

It is surprising to compare the different ravages of death in large cities and small villages. In the Pays du Vaud, and in the village of Brandenburg, the number of deaths, in the space of one year, is, with respect to the surveyors, in proportion of four to one hundred and eighty; and in the town of Shrewsbury, in England, in the proportion of four to one hundred and thirty. On the contrary, in London, four persons die out of eighty-three; at Vienna, three out of eighty-seven; and, at Berlin, four out of one hundred and six. This simple comparison sufficiently demonstrates the truth of the common observation that large populous cities are the sepulchres of the human race.

The most exact calculations which have been made in France,

Italy, Prussia, Holland, and Sweden, clearly show that, in all ages, more deaths happen among men than among women. By a list furnished by M. Susmich, at Berlin, it appears that four hundred and eighty-two males died under the age of one year, and only three hundred and sixty-six females. At Berlin, also, upon a calculation of four years, six thousand two hundred and ten males were born, eight thousand seven hundred and twenty-four females, which is almost twenty-one to twenty.

M. Leparcieux, at Paris, and M. Wargentin, in Switzerland, plainly prove that women, in general, not only live longer than men, but that married women, in particular, have a singular advantage over those who are unmarried. This is so manifest that, in one of the cantons in Switzerland, the number of maidens doubled that of the wives.

But in that state of marriage, the wives live much longer than the husbands. At Breslaw, in the course of eight years, one thousand eight hundred and ninety-one married men died, and only one thousand one hundred and ninety-six married women. By an exact account taken in Pomerania, it appears that, in the course of nine years, thirteen thousand, five hundred and sixty-six married men died, and only ten thousand married women. In Scotland, it is calculated that, in thirty-one marriages, twenty of the men will die as soon as twelve of the women, and in that proportion; but, in a state of widowhood, the case is quite different; that situation is greatly in favor of the men. At Dresden, the exact register of deaths were kept for four years, which clearly proved that five hundred and eighty-four widows died during that period, and only one hundred and forty-nine widowers. At Wirtemberg, in the space of eleven years, three hundred and seventy-eight widows died, and but ninety widowers. At Gotha, the proportion is seven hundred and ninety widows to two hundred and ten widowers. In Pomerania, the difference is still greater.

It is beyond a doubt that large cities tend to diminish population. Man, naturally fond of society, finds his destruction in society, or rather in the abuses of society. At Paris, Vienna, Amsterdam, Copenhagen, and Berlin, the number of births is always considerably less than that of the deaths. On the contrary, where the air is more pure, where agriculture flourishes, and simplicity of manners is adopted, population increases with great rapidity.

Dr. Herberden informs us that, in the island of Madeira, the number of inhabitants doubled in the course of eighty-four years; and, in the American colonies, the augmentation is still more considerable.

ANTIARIS.

ANTIARIS is the botanical name of the half-fabulous Upas Tree, of which so many idle stories were propagated some years since by travelers. It was said to be a large tree growing in the island of Java, in the midst of a desert, caused by its own pestiferous qualities; exhalations were reported to be so unwholesome that, not only did they cause death to all animals which approached the tree, but even destroyed vegetation for a considerable distance round it; and, finally, the juice which flowed from its stem, when wounded, was said to be the most deadly of poisons. To approach the Upas Tree, even for the momentary purpose of wounding its stem and carrying away the juice, was stated to be so dangerous, none but criminals under sentence of death could be found to undertake the task.

As is usual in such cases, this fable is founded upon certain natural phenomena which occur in Java. There is such a tree as the Upas, and its juice, if mixed with the blood in the body of any animal, is speedily fatal; and there is also a tract of land in the same island on which neither animal nor plant can exist. But the two circumstances have no relation to each other. The poisoned tract is a small valley completely surrounded by a steep embankment, like the crater of a volcano, and is continually emitting from its surface carbonic acid gas, which is alike fatal to animals and plants. On the other hand, the poisonous Upas Tree is not an inhabitant of the valley, for nothing can live there, but it flourishes in the woods, in the midst of other trees, which are unharmed by its vicinity. In the eye of a botanist, the Upas is a species of the genus *Antiaris*, which belongs to the natural order *Artocarpeæ*, a group of plants, all of which abound in a milky juice, and many of which are extremely poisonous. Of the original species, *Atoxica*, we have met with no scientific figure; it is, however, cultivated in the Botanical Garden at Calcutta, whence we have a leaf

or two. They are very much like those of the following plant, *Amacrophylla*, which has been found on the north coast of New Holland. The genus *Antiaris* has its stamens and pistilla in separate flowers. The former are collected in little heads in the center of a minute three or four leaved calyx, of which a considerable number is enclosed in a hairy involucre formed of several fleshy divisions which are rolled inwards. The pistillum is surrounded by a calyx of several leaves terminating in a long two-parted style, and contains a single suspended ovulum. The pistilla and the antheriferous flower-heads stand in pairs, side by side, in the axillæ of the leaves.

GLOSSARY.

- Abdomen*, the belly.
- Abscess*, a tumor containing pus, as a boil or other swelling.
- Abortion*, the premature expulsion of the fœtus from the womb.
- Acid*, that which imparts to the taste a sharp or sour sensation.
- Acrid*, sharp, pungent, corrosive or heating.
- Acrite*, sharp, ending in a sharp point; when applied to disease, means one which is attended with violent symptoms, and comes speedily to a crisis.
- Adipose*, fat.
- Affusion*, the act of pouring a liquid upon any other substance; as of pouring water upon a diseased body.
- Albumen*, a constituent part of the animal solids; it exists abundantly in the whites of eggs.
- Alkali*, a substance which neutralizes acid: saleratus, (a preparation of pearl-ash,) is one of the principal alkalies used by the Thomsonians.
- Alvine*, relating to the intestines, the discharges from which are termed alvine.
- Amenorrhea*, an obstruction of the menses.
- Anodyne*, any medicine which eases pain.
- Anthelmintics*, medicines which expel or destroy worms.
- Anti-bilious*, that which opposes or removes the great accumulation of bile.
- Antidote*, a preservation against, or a remedy for diseases, and particularly for poisons.
- Anti-dysenteric*, that which prevents or removes the dysentery.
- Anti-emetic*, that which opposes or removes vomiting.
- Anti-morbific*, that which prevents or removes disease.
- Anti-septic*, that which removes or tends to prevent putrefaction.
- Anti-spasmodic*, that which removes or tends to prevent spasms.
- Anti-syphilitic*, that which removes or prevents venereal disease.

Antiphlogistic, the mode of treatment adopted by the medical faculty, to weaken the system and diminish the vital power. Bloodletting, purging and leeching are among the antiphlogistic remedies.

Anus, the fundament.

Aperients, medicines which operate gently on the bowels.

Aromatic, fragrant; a plant which yields a pleasant spicy smell, or a warm, pungent taste.

Ascites, dropsy of the belly.

Asphyxia, apparent death; suspended animation.

Asthenia, a term used by Dr. Brown to signify diminished vital energy.

Astringent, that which corrects looseness and debility, by rendering the solids denser and firmer; known by its puckering effect upon the mouth.

Belching, the act of ejecting wind from the stomach by the mouth.

Bile, a bitter fluid, secreted by the liver, and poured into the intestines, to assist in the process of digestion.

Bronchia, the air-tube in the lungs.

Bronchocele, a disease which is marked by a tumor on the fore part of the neck, and seated between the trachea and skin, occupying generally the thyroid gland.

Bubo, a swelling on the groin.

Caloric, heat.

Calculi, small concretions, or stones which are found in the kidneys.

Canker, a false membrane or pseudo membranous lining of the stomach and bowels; in chronic cases, it is hard and tough, and of a grayish color.

Capillary vessels, the small ramifications of the arteries and veins.

Carbon, a name applied by chimists to charcoal.

Carbonic acid gas, fixed air; a compound of carbon and oxygen. It may be found by burning charcoal; it is emitted also by bodies in a state of vinous fermentation; it is often found, also, in a state of nature, at the bottom of wells, caverns, etc.; hence the sudden death, sometimes, occasioned by a descent into those places.

Cartilage, an elastic substance, usually termed gristle, which connects the bones, and assists their movements upon each other.

Carminative, a medicine which expels wind.

Cathartic, that which causes purging of the intestines.

Catheter, a hollow tube for drawing off the urine.

Caustic, a burning application.

Cellular, a little cavity or cell.

Cerebral, relating to the brain.

Chancre, a venereal ulcer, or sore, caused by the direct application of the virus.

Choleric, easily irritated.

Chronic, a term applied to diseases of long-standing ; the opposite of *acute*.

Chyme, the food in a state of digestion, which passes from the stomach into the intestines, and mixes with the bile.

Chyle, the milk-like fluids in the lacteal vessels.

Clinical, pertaining to the bed-side lectures or observations at the bed-side of the patient.

Clonic, to move to and fro.

Chyster, injection.

Colliquative, any excessive discharge from the body, as colliquative stools, colliquative sweats.

Coma, stupor, drowsiness.

Concrete, a uniform mass or layer.

Congestion, undue accumulation of blood.

Conjunctiva, a membrane of the eye.

Constipation, costiveness.

Constriction, a drawing together, or contraction, as from cold.

Contagious, catching ; that which may be communicated from one person to another, by contact, or by a subtile excreted matter.

Convulsions, involuntary contractions of the muscles.

Costive, bound in the body ; restraining.

Costiveness, the state of the body in which excretion is obstructed.

Cuticle, a thin white membrane ; the outer skin.

Decumbent, declined or bending down.

Delirium, an alienation of mind, or wandering of the senses, caused by the violence of fever.

Diagnosis, the signs by which a disease is known.

Diaphoretic, that which from being taken, internally, promotes perspiration, or discharges by the skin.

Diaphragm, a muscle, or partition between the chest and abdomen.

Diarrhea, a purging ; a looseness of the belly.

Diuretics, medicines which increase the flow of urine.

Digest, to dissolve ; the action of a solvent on any substance.

Drastic, violent, powerful.

Dropsy, a collection of serous fluid in the cellular membrane in the viscera and the circumscribed cavities of the body.

Duodenum, the first portion of the small intestines.

Dysentery, a purging attended with bloody stools.

Dyspnœa, difficulty of respiration ; oppressed breathing.

Dyspepsia, a difficulty of digestion.

Dysuria, difficulty and pain in passing urine.

Endemic, a term applied to diseases which are especially prevalent in certain localities or districts.

Effluvia, exhalations from diseased bodies or other substances, whether noxious or otherwise.

Ejection, discharges from the stomach by vomiting.

Emetic, a medicine which provokes vomiting.

Enema, a clyster or injection.

Engorgement, a stagnation of fluids in a part.

Epidemic, a contagion, or other disease, that attacks many people at the same season, and in the same place.

Epidermis, the outer skin, called the *scarf skin*.

Epigastric region, the portion of the abdomen immediately over the stomach.

Epispastics, substances which blister the skin, as Spanish flies.

Eruptive, the bursting forth of humors on the surface of the skin, in the form of pustules, etc.

Erratic, wandering, irregular.

Erysipelas, St. Anthony's fire.

Etiology, relating to the cause and origin of diseases.

Exacerbation, an increase of fever.

Excretive, having the power of separating and ejecting fluid matter from the body.

Excrement, the alvine discharges or stools.

Excretions, useless substances which are discharged from the body, as urine and perspirable matter.

Excitability, that condition of the body which renders it susceptible of stimulant impressions.

Exfoliate, to scale off, as a piece of dead bone.

Exhalents, small vessels or pores which convey the perspirable matter out of the system.

Exhibition, the administration of medicine.

Exotic, foreign; not a native.

Expectorant, medicines which increase the discharge of mucus from the lungs.

Febrile, pertaining to, or indicating fevers.

Flaccid, soft; yielding.

Flatulency, windiness in the stomach and intestines.

Flour Albus, whites or Leucorrhœa.

Fomentation, a sort of partial bathing, by applying flannels dipped in hot water, or medical decoctions, to any part.

Formula, a physician's prescription; a written or specified form.

Function, the action or office performed by any organ, as the functions of the heart; the functions of the liver.

Fundament, see anus.

Fur, a coat of morbid matter collected on the tongue of a diseased person, especially in fevers.

Fæces, the stools, or alvine discharges.

Gas, a permanently elastic uniform fluid.

Gastric, appertaining to the stomach.

Gangrene, mortification.

Gargle, a medicated preparation for washing the mouth and throat.

Gestation, the period of pregnancy.

Gland, a part of the body destined for the secretion of some particular fluid. The salival glands secrete the saliva; the liver, which is also a gland, secretes the bile.

Granulation, the act of forming into small grains.

Gravid, pregnant.

Gonorrhœa, a puriform discharge from the urethra with or without dysuria, lascivious inclination, and not following an impure connection, in many instances.

Hectic, habitual; denoting a slow, continual fever, marked by preternatural, though remitting heat, which accompanies the consumption, etc.

Hemiphlegy, a palsy that affects one half or side of the body.

Hemorrhage, fluxes of blood, proceeding from the rupture of a blood-vessel, or some other cause.

Hemorrhoidal, pertaining to the vessels which are the seat of the hemorrhoids or piles.

Hernia, a rupture.

Herpetic, having the character of a tetter.

Hydrocele, a disease of the testicles.

Hydrocephalus, dropsy in the head.

Hydrogen, an aeriform fluid gas, of the lightest body known, and is used for inflating balloons. It forms one of the elements of water, being about fifteen parts to one hundred of that liquid; and is fatal to animal life.

Hæmoptysis, bleeding from the lungs.

Hypochondriasis, the vapors; spleen; a disease which is attended by languor or debility, lowness of spirits or melancholy; the sufferer often apprehending great evil to himself.

Hysterics, a disease of women, characterised by spasmodic affections of the nervous system, and often attended by hypochondriacal symptoms.

Iatroleptic, the method of curing disease by unction and friction—the administration of medicine by cutaneous absorption.

Icterus, jaundice.

Idiopathic, a term used to designate a disease which exists independent of any other; opposed to symptomatic disease, which is dependent on another.

Ichorous, a thin aqueous and acrid discharge.

Infectious, that which taints or corrupts; having qualities which may communicate disease from one to another.

Infusion, the liquid procured by steeping any substance in cold water.

Inguinal, relating to the groin.

Inoculation, the insertion of poison into any part of the body.

Inspiration, the act of drawing air into the lungs.

Intermittent, a disease which ceases for a time and then returns, as agues, etc.

Irritability, the capacity of being moved or excited into action.

Lacteals, vessels which arise from the intestinal coats of the small intestines and absorb the chyle, which is conveyed to the thoracic duct and finally converted into blood.

Lamine, a scale or plate. It is used for the foliated structure of bones or other organs.

Laxative, a medicine that relaxes the bowels; a gentle purgative.

Lethargy, a morbid drowsiness or sleepiness; a continued or profound sleep, from which a person can scarcely be awakened, and if waked, remains stupid.

Leucorrhea, the whites, generally termed *fluor albus*.

Ligament, a strong, elastic membrane, by which the joints are connected together.

Lithotomy, a surgical operation, for the removal of stone in the bladder.

Local, confined to a particular part.

Loins, the small of the back.

Lumbago, rheumatism in the loins.

Lumbar region, a term applied to the loins.

Lymph, a colorless fluid, separated from the blood, and contained in small vessels called lymphatics.

Mania, delirium; madness.

Malaria, poisonous exhalations from marshes and putrifying substances.

Materia Medica, that branch of medical science which treats of the nature and properties of substances employed for the cure of diseases.

Matrix, the womb.

Membrane, a thin flexible skin, serving to cover some part of the body.

Metastasis, the translation of disease from one part to another.

Menstrum, the name given to any liquid, into which a substance is put to extract its virtues; water, for instance, is the menstrum of all salts, vegetable gums, and animal jellies; rectified spirits of wine is the menstrum of essential oils and vegetable resins.

Miasm, synonymous with malaria.

Molar Teeth, the double or grinding teeth.

Morbid, diseased.

Morbific, relating to disease.

Mucilage, a fluid of a thick, shiny, ropy and soft consistence.

Mucus, a transparent, saline, glutinous fluid.

Muscles, portions of the flesh, susceptible of contraction and relaxation.

Narcotic, a medicine which has the power of procuring sleep by stupefaction.

Nausea, an inclination to vomit, without effecting it; also a disgust of food, approaching to vomiting.

Nephretic, affections of the kidneys.

Nerves, long white cords, which have their origin in the brain and spinal marrow, and are distributed to every part of the body.

It is the nerves which render us sensible of pain.

Nervine, anything that affords relief from disorders of the nerves.

Neuralgia, pain of the nerves.

Nucleus, anything about which matter is collected.

Nitrogen, an elementary, gaseous fluid, incapable of supporting animal life; composing about four-fifths of the atmospheric air.

Nosology, a systematic arrangement of diseases into classes, orders, genera, and species.

Obtuse, when applied to pain, means *dull*, not sharp or acute.

Edma, a swelling from a dropsical collection between the skin and muscles.

Olfactory, relating to the sense of smelling.

Ophthalmia, inflammation of the eyes.

Organic Affection, a disease in which the structure of a part is deranged.

Organ, a part which has a determined office in the animal economy.

Ossified, changed into bone.

Oxygen, the great supporter of animal life. It forms about one-fifth of the atmospheric air, and is a constituent part of all bodies in the animal and vegetable kingdoms. Without oxygen we could not breathe, nor without it could there be any combustion.

Pancreas, a soft, supple gland, situated in the lower part of the abdomen, which secretes a kind of saliva, and pours it in the duodenum.

Palpitation, a fluttering or convulsive motion.

Paralysis, a palsy.

Parotid, the name of certain glands, below and above the ear.

Paroxysm, 1st, an obtuse increase of the symptoms of a disease, which lasts a certain time, and then declines; 2d, a periodical attack or fit of a disease.

Pathognomonic, a term given to those symptoms which are peculiar to disease, and without which the disease does not exist.

Pathology, the doctrine of diseases.

Pectoral, pertaining to the breast.

Peripneumony, inflammation of the lungs.

Peristaltic, the worm-like motion by which the intestines push forward their contents.

Perspiration, evacuation of the fluids of the body through the pores of the skin; the matter perspired, or sweat.

Petechia, a red, purple spot.

Phlegm, a thick, tenacious mucus, secreted in the lungs.

Phlemasia Dolens, the big leg which sometimes happens to lying-in women.

Plethoric, fullness of blood.

Pleura, a membrane which lines the internal surface of the thorax or chest. Inflammation of this membrane is termed *pleurisy*.

Pleuritic, of the character of pleurisy, attended with pain in the side of the chest.

Polypus, a tumor which is generally narrower where it originates, and then becomes wider somewhat like a pear.

Predisposition, that state of the body which renders it susceptible of any particular disease.

Primæ Viæ, a term applied to the stomach and intestinal tube.

Prolapsus, a falling out, or falling down, of some part of the body.

Prolific, fruitful.

Proximate, nearest; next; a *proximate cause* is that which immediately precedes and produces any particular effect.

Pulmonary, relating to the lungs.

Pungent, sharp; biting; prickling; stimulating.

Purges, } medicines which increase the intestinal discharges
Purgatives, } by stool.

Purulent, having the appearance or qualities of pus.

Pus, matter; a whitish, cream-like fluid, found in inflamed abscesses, or on the surface of sores.

Pustules, small pimples, or eruptions on the skin, containing pus.

Putrescent, becoming putrid; tending to putrefaction.

Pyrexia, fever.

Pyrosis, water-brash; heart-burn.

Quartan, an ague which returns every fourth day.

Quotidian, an ague which returns daily.

Radical, pertaining to the root.

Rectum, the last portion of the intestines, terminating in the anus.

Refrigerating, cooling; allaying heat of the body or blood.

Region, a term applied to the respective divisions of the body.

Remittent, to abate in violence for a time, without intermission.

Resolution, the dispersing of a tumor, or inflammation, without suppuration.

Respiration, act of breathing.

Retching, straining to vomit.

Rigidity, stiffness; want of pliability; the quality of not being easily bent.

Rigor, a sense of chilliness, with shivering and contraction of the skin.

Rubefacient, a substance which, when applied a certain time to the skin, induces a redness without blistering.

Saliva, spittle.

Salivation, an inordinate flow of the saliva, accompanied with irritation of the mouth and gums.

Sanguine, abounding with blood; plethoric.

Sanguineous, relating to the blood.

Scirrhus, a hardening of a gland, which generally terminates in cancer.

Scrotum, the skin which covers the testicles.

Secretion, that which is derived or separated from the blood. The tears, saliva, bile, etc., are termed secretions.

Sedative, that which diminishes the vital energy.

Sedentary, accustomed to sit much.

Sensorium, the brain, the center of feeling.

Septic, relating to putrefaction.

Serum, the watery portion of the blood.

Skeleton, the articulated dry bones of an animal.

Slough, a separation of the dead from the living flesh.

Spasms, cramp; convulsions.

Spasmodic, pertaining to cramp or convulsions.

Sphacelus, gangrene; mortification.

Spinal, relating to the back-bone.

Spleen, the milt. A spongy viscus, placed on the left side, between the eleventh and twelfth false ribs.

Stomachus, the stomach.

Stimulants, medicines which excite the system into increased action.

Stool, an evacuation from the bowels.

Strangury a difficulty of voiding urine, attended with pain.

Sterility, barrenness.

Strumous, scrofulous.

Styptic, that which stops the discharges of blood.

Subsultus, weak convulsive motions of the tendons.

Sudorific, that which produces perspiration; synonymous with *diaphoretic*.

Suppuration, the formation of pus, or matter, in inflammations, tumors, etc.

Sutures, the seams which unite the bones of the skull.

Symptomatic the consequence of some other affection.

Syncope, fainting or swooning.

Synocha, inflammatory fever.

Syphilis, the venereal.

Tenesmus, a continual and urgent desire to go to stool, without a discharge.

Tenia capitis, scald-head.

Tense,
Tension, } stretched; strained to stiffness; rigid.

Tepid, moderately warm.

Tertian, a disease whose paroxysms return every other day.

Tetanus, the locked jaw.

Therapeutic, relating to the employment of remedies.

Thorax, the chest.

Titillation, tickling.

Tonic, a medicine that increases the strength or tone of the animal system.

Tonsils, an oblong gland in the fauces.

Topical, confined to a particular part.

Tormina, griping pain.

Transpiration, the passage of useless matter from the body, either through the pores of the skin, or from the lungs. Hence we say *cutaneous transpiration*, and *pulmonary transpiration*.

Tremor, an involuntary trembling.

Tubercles, small hard tumors, generally found in the lungs.

Tumefy, to swell.

Tumor, a morbid swelling or enlargement of a particular part.

Turbid, muddy, cloudy, dirty.

Typhoid, resembling typhus; weak, low.

Ulcer, a sore which discharges pus, or matter.

Ulceration, the process of forming into an ulcer.

- Urethra*, the membranous canal by which the urine is conducted from the bladder and discharged.
- Ureters*, the tubes which convey the urine from the kidneys to the bladder.
- Uterine*, appertaining to the uterus.
- Uterus*, the womb.
- Uvula*, a small conical fleshy substance hanging near the root of the tongue, commonly called the palate.
- Vaccination*, the act of inoculating persons with the cow-pox.
- Vagina*, the canal which leads to the womb.
- Veins*, vessels which convey the blood to the heart.
- Venous*, pertaining to the veins.
- Ventricles*, the two cavities in the heart which propel the blood into the arteries.
- Vermifuge*, a substance that destroys or expels worms from animal bodies.
- Vertigo*, dizziness; giddiness of the head.
- Vesication*, blistering.
- Viscera*, plural of viscus.
- Viscid*, glutinous; sticky.
- Viscus*, a name applied to the organs contained in the thorax or abdomen, as the lungs, liver, etc.
- Volatile*, capable of wasting away suddenly from exposure to the air.

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